MEDICAL PRECEPTS AND CAUTIONS.

By

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Ἀσκεῖν περὶ τὰ νοσήματα δύο· ὠφελέειν, ἢ μὴ βλάπτειν. Hippocr. Epidem. 1.

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PREFACE.

I HAVE perſwaded myſelf, that I ſhould perform a work, neither entirely void of uſe, nor foreign to the duties of my profeſſion; if I made the public partakers of the principal helps againſt moſt diſeaſes, which I had either learned by long experience, or deduced from rational principles. But my purpoſe is to lay down precepts of the art, and methods

of cure, rather than definitions or deſcriptions of diſeaſes; and to propoſe medicines confirmed by practice, not mere conjectures. And as it is not my intention to write a complete ſyſtem of medicine, I ſhall not ſtrictly confine myſelf to the uſual order obſerved in medical treatiſes: for at my leiſure hours I have peruſed my looſe papers, and from them have extracted ſuch things, as I thought might prove uſeful hereafter; at the ſame time calling in my memory to my aſſiſtance for whatſoever I had obſerved to be ſerviceable, or pre-

prejudicial, in each particular diſtemper. *For ſuch was the riſe of medicine, by the recovery of ſome patients, and the loſs of others, gradually diſtinguiſhing pernicious from ſalutary things* (1). Wherefore I ſhall not enquire into the very conſtitution (if the expreſſion may be allowed) of the medical art; nor enter into the diſpute, how far it is either *rational* or *empirical*: on which topics I refer my readers to *Celſus*, who has ſtated the arguments of

(1) *Sic medicinam ortam, ſubinde aliorum ſalute, aliorum interitu, perniciosa diſcernentem a ſalutaribus.* Celſus *in Præfat.*

phy-

phyſicians for their reſpective ſects with great candor, and ſums up the whole by delivering his own opinion with equal judgment and perſpicuity (1). Nor is this little work, which has been often interrupted by, and partly compoſed amidſt, the hurry of buſineſs, thrown out as a bait to catch fame. For it has long ſince been obſerved by the great parent of medicine, that *our art has acquired more blame than honor* (2). And indeed it is

(1) *Ibidem.*

(2) Ἐγωγε δοκέω πλείονα μεμψιμοιρίαν, ἢ τιμὴν κεκληρῶσθαι τὴν τέχνην. *Hippocrates in epiſt. ad Democritum.*

the

the general temper of mankind, to be exceſſively profuſe of their reproofs, of their commendations extremely parcimonious. But this complaint made in behalf of medicine will probably appear ſlight, if compared with the following, which he makes in another place: *That the phyſician has dreadful objects before his eyes, very diſagreeable ſubjects in his hands, and takes great uneaſineſs to himſelf from the calamities of others* (1). Now what can be more humane, or

(1) Ὁ μὲν γὰρ ἰητρὸς ὁρέει τὰ δεινὰ, ϑιλγάνει τε ἀηδέων, καὶ ἐπ' ἀλλοτρίῃσι ξυμφορῇσιν ἰδίας καρπῶται λύπας. *Lib. de flatibus.*

more

more worthy even of a chriſtian, than to declare, that he feels the calamities of others as ſenſibly, as if they were his own.

HOWEVER, the very nature of my deſign compelled me to take notice of the errors of other phyſicians; but I have been very careful throughout the work to do it with the ſame equity, with which I would deſire to have my own faults corrected. Our art is frequently obliged to rely on conjectures; nor is it to be expected that any one perſon will conſtantly hit the

the mark. And therefore I have not been aſhamed to acknowlege, and put my readers in mind of, ſome errors, which I have committed either through ignorance, or want of due attention. For, as *Celſus* ſays, *a plain confeſſion of a real error is commendable, and more eſpecially in that performance, which is publiſhed for the benefit of poſterity* (1). The reader will eaſily perceive, that I have endeavored not only to expreſs the ſenſe of *Celſus*, but to em-

(1) *Lib.* viii. *cap.* 4.

ploy his very words and phraſes, or cloſe imitations of them at leaſt, whenever the ſubject would allow it; and I heartily wiſh I could have done it more frequently. For what author could I chooſe to follow rather than him, who ſelected the beſt things out of the writings of the *Greek* phyſicians and ſurgeons, and rendered the whole into moſt pure and elegant *Latin?*

To conclude, the reader is deſired to take notice, that by the compoſitions of medicines,

cines, which I make uſe of in this treatiſe, I mean thoſe of the late edition of the *London Diſpenſatory* (1), unleſs otherwiſe ſignified.

(1) *Pharmacopoeia Collegii regalis medicorum Londinenſis. Lond.* 1746. 4°. And the tranſlator of this work has taken the *Engliſh* names of the abovementioned compoſitions from Dr. *Pemberton*'s tranſlation of the ſaid *Pharmacopoeia.* Lond. 1746. 8°.

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XXI. *Of diſeaſes, which come upon, or are changed into, others* 295
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Errors of the preſs.

P. 144. l. 15. *dele*, as I have already obſerved.
— 259. l. 17. native *read* land.

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MEDICAL

MEDICAL PRECEPTS AND CAUTIONS.

INTRODUCTION.

Of the human body.

BEFORE I begin to treat of the diſeaſes of the human body, it may not be improper to give the reader a ſuccinct idea of its nature in a ſtate of health.

WHEREFORE, in order to form a juſt notion of the body of man, it ought to be conſidered as a hydraulic machine contrived with the moſt exquiſite art, in which there are numberleſs tubes properly

ly adjuſted and diſpoſed for the conveyance of fluids of different kinds. Of theſe the principal is the blood, from which are derived the ſeveral humors ſubſervient to the various uſes and purpoſes of life; and in particular that ſubtil and remarkably elaſtic fluid, generated in the brain, and known by the name of *animal ſpirits*, the inſtrument of ſenſe and motion: which functions it never could be capable of executing, were it not contained in proper organs. For this purpoſe the almighty Creator has formed two ſorts of fibres, the fleſhy and the nervous, as receptacles for this active principle; and each ſort of theſe is partly interwoven in the membranes of the body, and partly collected into bundles or cords, and attached to the limbs, for performing their motions with the aſſiſtance of the bones.

BUT this wonderful machine, incapable of putting itſelf into motion, was ſtill in want of a firſt mover: wherefore the *mind* is placed over it, as a ruler and moderator, and is the efficient cauſe of all ſenſe and motion. For whether this principle reſides in the head, as in its citadel; or whether *it has no fixed place, but is diſperſed all over the body*, according to the opinion of *Xenocrates*, a diſciple of *Plato* (1); it commands within us, and directs the whole. Now, our motions, as well as our ſenſes, are twofold, internal and external: the internal have not only the vital parts, as the heart, lungs, ſtomach and inteſtines, ſubject to them, but likewiſe all the nervous membranes.

(1) See *Lactantius De opificio Dei, cap.* 16.

MEDICAL writers generally make a wide difference between the motions of the vitals, and thoſe of the reſt of the parts; imagining that the former, after they are once begun in the firſt formation of the individual, neceſſarily continue even againſt our will; but that the latter are performed at the diſcretion of the mind, as circumſtances require. But this is a falſe notion, into which they are deceived by obſerving, that theſe natural actions continue without any ſenſible intermiſſion, even when we are little or not at all conſcious of them, thro' the whole courſe of life: whereas, if the thing be narrowly looked into, it will manifeſtly appear, that the reaſon why theſe vital motions ſeem not to be governed by the mind, is, becauſe being inceſſantly accuſtomed to them, we perform them ſo quick

quick and without attention, that we cannot eaſily check and hinder them from performing their reſpective offices. Something of this kind we experience, when, looking at the ſun, or any body that ſtrikes the eye too forcibly, we wink whether we will or not: and yet no body doubts, but that thoſe motions are effected by the direction of the mind. I could bring ſeveral other examples to confirm and illuſtrate this ſentiment; but to avoid being tedious, I chooſe to refer the reader to a diſſertation of Dr. *Porterfield*, who has handled this ſubject with great perſpicuity, (1) as I have ſaid in another place (2).

(1) See *Medical Eſſays, publiſhed at Edinburgh, Vol.* III. *Eſſay* 12. and *Vol.* IV. *Eſſay* 14.

(2) *Diſc. on the Small Pox, page* 19.

But this power of the mind is moſt remarkably perceptible in thoſe fevers, which are called peſtilential. For in theſe one may obſerve, that the mind hurries to the aſſiſtance of the laboring frame, fights againſt the enemy, and, with the aid of the animal ſpirits, excites new motions in the body (tho' we may be inſenſible of it) in order to expel the poiſon, which is blended with the humors, thro' every outlet. And hence very great phyſicians have defined a diſeaſe to be a ſtruggle of nature in defence of the health of the individual.

In this manner it is, that care is taken of the whole machine, when in danger. But it is likewiſe neceſſary ſometimes to have a regard to ſome particular part; nor does the mind fail of executing its office in this caſe. Thus if a topical diſ-

order

order has happened any where; to prevent the part from being overloaded and pained, nature has provided a paſſage for the blood and humors by the adjacent veſſels. This is effected by that admirable diſpoſition of the body, whereby the blood-veſſels are interwoven and ſpread throughout every part; ſo that the blood may paſs, not only from vein to vein, but alſo from the ſmall arteries into others. And this mechaniſm is peculiarly apparent, where obſtructions are moſt to be feared; as in the head, abdomen, and the long winding ducts of the organs of generation.

Now ſuch a conſtruction of our frame is the more neceſſary, becauſe, even when a diſeaſe is not in the caſe, the very actions and cuſtoms of the body ſometimes require the humors to be conveyed with greater

er freedom thro' ſome paſſages than thro' others. Hence the ſame blood-veſſels become wider or narrower in different perſons, according as their manner of living has occaſioned theſe veſſels to be more or leſs dilated by the perpetual motions of the fluids. Thus in perſons addicted to drinking the arteries in the head, in people given to venery thoſe in the genitals are bigger than in the ſober and continent.

AND this additional remark may not be improper here, that it is almoſt impoſſible, but that the very make of the animal parts, tho' extremely convenient for the purpoſes of life, muſt be attended with ſome inconveniences in particular caſes; as in the fabric of the univerſe thunder, ſtorms, inundations, plagues, and other ſuch calamities neceſ-

neceſſarily happen ſometimes in ſome places. But as the divine Creator of the macrocoſm has given us natural means of guarding againſt theſe evils; ſo he has afforded proper aſſiſtance againſt thoſe which affect our microcoſm.

GEOMETRICIANS have been long intent on contriving a machine, that may be endued with perpetual motion; but have conſtantly loſt their labor. For in handy-works of this kind ſome portion of the moving power is loſt every inſtant, by reaſon of the friction of the parts, whereby it requires to be perpetually renewed. Wherefore it is GOD alone who can complete ſuch a machine; and was pleaſed that our body ſhould be a fabric of that ſort, by diſpoſing all its powers in ſuch a manner, that they ſhould form a kind of circle, in

which, at the ſame time that they perform their reſpective functions, they ſhould conſtantly and mutually repair each other.

HENCE it manifeſtly appears, that the animal machine is made, not by parts, but all together; ſeeing it is impoſſible, that a circle of motions, ſome of which depend on others, be compleated, without all their inſtruments being in their proper places. For example, how can the heart contract, to puſh the blood forward, without the aſſiſtance of the animal ſpirits; or the ſpirits be ſecreted without the brain? And ſo of all the other principal parts. Wherefore the *animalcula*, which by the help of microſcopes we diſcover ſwiming in the *ſemen maſculinum*, are really little men; which being received into the womb, are there cheriſhed as in a neſt, and grow

grow in due time to a proper ſize for excluſion. Therefore *Hippocrates* ſaid very juſtly: *In the body there is no begining, but all the parts are equally the begining and end* (1).

To what has been hitherto ſaid let me add, that every animal machine is of ſuch a nature, that there is a ſort of infinity in its conſtituent parts; by which expreſſion I mean that their fibres are ſo extremely ſmall, that we cannot diſcover the ultimate *ſtamina*, even by the aſſiſtance of the beſt microſcopes. Had it been otherwiſe, aliment would not be conveyed to every individual part of the body, nor could the neceſſary functions of life be performed.

(1) Εμοὶ δοκέει ἀρχὴ μὲν οὖν ἐδεμία εἶναι τῦ σώματος, ἀλλὰ πάντα ὁμοίως ἀρχὴ καὶ πάντα τελευτή. *De Locis in homine*, initio.

WHEREFORE, upon the whole, health conſiſts in regular motions of the fluids, together with a proper ſtate of the ſolids; and diſeaſes are their aberrations: which as they are numberleſs, and one often produces another, it is next to a miracle, that the animal body ſhould be able to hold out to extreme old age. And hence indeed plainly appears the extenſiveneſs of the art of medicine, and how much ſuperior it is to all other arts.

NOW this machine, the only one that is endued with perpetual motion, was formed by the almighty Geometrician to laſt a longer or ſhorter ſpace of time, according to the different genius's of living creatures. For a body, ſuch as ours, cannot poſſibly retain life for ever; which is not difficult to account for. Becauſe the membranous fibres of the

the blood-veſſels, which were made elaſtic, in order to drive their included juices forward, become gradually harder, and at length rigid; whence they are rendered incapable of executing their offices, and the ſecretions of the ſeveral parts are diminiſhed by degrees. And that the uſeleſs juices are not ſufficiently carried off by perſpiration in old age (a buſineſs very material to the continuance of life) manifeſtly appears from diſſections of the bodies of very old people; the inſides of their arteries being ſometimes found oſſified here and there, whereby they had almoſt entirely loſt their ſpringineſs; and the orifices of the natural ducts are often obſerved to be quite cartilaginous.

In confirmation of this truth I ſhall give two remarkable examples, the firſt of which is taken from our

own

own hiſtory. *Thomas Parr*, a poor laboring man, was born in a healthful part of *Shropſhire*, where he vigorouſly continued his daily labor to the age of one hundred and thirty years: but afterwards having loſt his ſight, he was at length brought to *London*; and having reſided here for ſome time, in the year MDCXXXV he died at the age of one hundred and fifty two years and nine months. His body was opened by the immortal *Harvey*, who found all the parts in a ſound ſtate except the brain, which was *extremely firm and ſolid to the touch* (1). Thus were the veſſels in that part grown hard by age.

THE other example is recorded in our *Philoſophical Tranſactions*.

(1) See the diſſection of *Thomas Parr*, at the end of Dr. *Betts*'s book *De ortu & natura ſanguinis*.

It is an account of a worker of the mines in *Swiſſerland*, who died in MDCCXXIII, aged one hundred and nine years and three months, ſent to the Royal Society by Dr. *John James Scheuchzer* of *Zurich*; who upon diſſection found the exterior membrane of the ſpleen beſet with white ſpots, at firſt ſight reſembling variolous puſtules; but they were of a cartilaginous hardneſs, and raiſed ſomewhat above the ſurface of the reſt of the membrane: the articulations of the ribs with the *ſternum* were quite oſſified; the tendon, by which the arteries are inſerted into the heart, was either boney, or cartilaginous at leaſt; the ſemilunar valves, eſpecially of the *aorta*, were plainly cartilaginous; and the *dura mater* was about three times its uſual thickneſs, and like leather (1).

(1) *Phil. Tranſ.* N° 376.

BUT it is time to paſs to the defects of this machine, which diſturb and deſtroy its motions.

CHAP.

CHAPTER I.

Of fevers.

SECTION I.

Of fevers in general.

ALL fevers, of what kind ſoever, are attended with a preternatural heat of the blood and humors; and this impairs the bodily ſtrength, and the vital actions. Wherefore nature raiſes all her powers, and engages the diſeaſe, as a mortal enemy: and if ſhe gets the better, ſhe drives out the cauſe of the diſorder by ſuch outlets as ſhe is able. This action is by phyſicians called the *criſis* of the diſeaſe. Now, what I would have

here underſtood by the word *nature*, as alſo ſome things relating to the different ſorts of fevers, I have explained in another place (1), and at the ſame time ſhewn, in what ſenſe phyſicians, and particularly *Sydenham* ſaid, *that a diſeaſe is nothing elſe but a ſtruggle of nature, endeavoring by all means to exterminate the morbific matter, for the recovery of the patient* (2). Wherefore I will premiſe ſome few thoughts on the criſes or ſolutions of fevers.

SECTION II.

Of the criſes of fevers.

WHEREAS there is no fever cured without ſome conſiderable evacuation, raiſed either by nature or by art; the phyſician ought care-

(1) See *Diſcourſe on the ſmall pox, chap.* 2.
(2) *Obſervat. medicæ circa morborum acutorum hiſtoriam*, at the begining.

fully

fully to obſerve, which way nature ſeems to intend the expulſion of the morbid matter, and aſſiſt her by all poſſible means. Now this expulſion is very frequently made through ſeveral outlets of the body at a time, and an evacuation by one outlet more or leſs checks that by another: thus a looſeneſs checks ſweat, and *vice verſa*. Wherefore it is the phyſician's buſineſs to diſcern, what evacuation is moſt likely to be of ſervice, and ſo to promote this, as to give the leaſt interruption poſſible to any other: for any one evacuation is not equally ſuitable to all perſons, both on account of the difference of conſtitutions, and of diſeaſes; altho' evacuations through every emunctory are ſometimes neceſſary, as we find by experience in malignant fevers.

BUT of all ſolutions of the diſeaſe the moſt deſirable is by ſweat, next to that by ſtool and urine; the worſt is by a hæmorrhage, whether it proceed from the noſe, or from any other part: becauſe it indicates, that the blood is ſo far vitiated, that no proper ſeparation of the humor can be made.

LASTLY, ſome fevers terminate in abſceſſes formed in the glands, which, if they happen in the decline of the diſeaſe, and ſuppurate kindly, are ſalutary. Wherefore the ſuppuration is to be forwarded by cataplaſms or plaſters, and ſometimes by cupping on the tumor; and then, if the abſceſs does not break ſpontaneouſly, it ought to be opened either with the knife or a cauſtic.

AT this time this rule of practice is generally right, not to exhauſt

hauſt the patient's ſtrength by evacuations of any kind. And yet in ſome caſes there is a neceſſity for drawing a little blood; as when the humors are in great commotion, and the heat exceſſive: for this remedy prudently adminiſtered makes the tumor ripen kindly, becauſe nature has always a great abhorrence of a turbulent ſtate.

SECTION III.

Of continual fevers.

THERE is no diſeaſe, to which the uſeful precept, *Principiis obſta*, is more applicable than to fevers: becauſe in the begining it is generally eaſy to do good; but when the diſtemper has gained ground, the cure is often attended with difficulty. For the *opportunity*

is

is fleeting (1); and a medicine, which early adminiſtered might have prevented the impending danger, frequently fails, when the bodily ſtrength is exhauſted by the violence of the diſeaſe. However, a patient, who applies late for aſſiſtance, is not to be abandoned to his fate; ſince it is certain, that thoſe diſeaſes, which in old times were aſcribed to the divine wrath, (2) are frequently cured by natural means, even when they appear moſt deſperate. Wherefore the phyſician ought to lay it down as an abſolute rule, never to be wanting to his duty.

AND firſt, as blood-letting is a moſt excellent remedy in the begining of all fevers; if it has

(1) Ὁ καιρὸς ὀξὺς. *Hippocr. Aphor.* 1. *Sect.* 1.

(2) See *Celſus* in his Preface.

hap-

happened to be neglected for ſome days, let us conſider, whether it is ſtill proper to be ordered.

In caſe of intolerable pain in any part of the body, of difficulty of breathing, or a *delirium*, blood is to be taken away, according to the patient's ſtrength; with the lancet, if he is able to bear it; if too weak, by cupping; but if exceſſively ſo, by leeches. And if this may be done, when the diſeaſe is got to the highth; it ought for ſtronger reaſons to take place in the begining. And let me obſerve by the bye, that leeches are often of vaſt ſervice in a *delirium*. I have alſo ſometimes found by experience, that pieces of lamb's lungs, applied warm to the head, have carried off the phrenzy, by the exſudation of the noxious or ſuperfluous humor.

BUT in order to a clearer comprehenſion of what I have to offer on this diſtemper, I will enumerate and briefly explain its principal kinds; leaving the reader at liberty to conſult the medical writers, eſpecially *Celſus* and his imitator *Lommius*, who have treated this ſubject profeſſedly, concerning the management of the ſick, his diet, *&c.*

SECTION IV.

Of fevers attended with eruptions.

FEVERS attended with eruptions require particular attention As for the ſmall-pox, meaſles, and plague, I have already publiſhed my thoughts on them in ſeparate treatiſes. Of the reſt the chief is

The

The miliary fever.

THERE is no fever, that puts on more various appearances than this. Puſtules, rough to the touch, break out, ſooner or later, all over the body; ſometimes red, ſometimes whitiſh, and again both ſorts intermixt; at one time ſmaller, at another larger and more elevated, and of a bad ſmell. Sobbing and anxiety about the heart are very frequent ſymptoms, which are often followed by a *delirium* and convulſions. The diſeaſe runs into a conſiderable length: and if it happens to end too ſoon, without a ſufficiently perfect *criſis*, it often brings on a bad habit of body. The red pimples are not ſo dangerous as the whitiſh; and the more lively their colour, they are the ſafer. Hence it appears, that this fever is more owing to a de-

fect in the humors, and the animal ſpirits in particular, than to any bad quality of the Air; and that it requires different methods of cure according to its different circumſtances.

But of what kind ſoever the puſtules are, blood is to be drawn in the begining, if the patient has ſtrength to bear it; unleſs he be actually in a ſweat, in which caſe blood-letting is either to be omitted, or at leaſt to be put off for a day or two, or ſome other convenient time. Now, red puſtules bear bleeding much better than the whitiſh: and though in both ſorts bliſters are ſerviceable, yet they are more neceſſary in the latter; and they are to be applied to the neck, head, and all the limbs, at proper diſtances of time. After all, I would adviſe the phyſician always to

to bear in mind, that the more ſparingly blood has been drawn, the more happily the diſeaſe generally terminates: for when the ſtrength has been exhauſted by evacuations toward the latter end, the eruption ſinks in, and the patient dies.

NATURE'S endeavors to expel the morbific matter through the skin are to be aſſiſted by moderately cordial medicines. Of this tribe the moſt proper are *the bezoardic powder, the compound powder of contrayerva, and the cordial confection*; adding *nitre*, in caſe of an inflammation: and this ſalt may be very advantageouſly joined to cordial medicines in almoſt all malignant fevers, at leaſt in the begining. Toward the decline, warm bathing is ſometimes ſerviceable, in order to bring forth the remains of the puſtules.

BUT if, either at the highth, or on the decline of the fever, the only appearance of an eruption is a vaſt number of pellucid veſicles, ſo ſmall as hardly to be ſeen; it is not ſafe to perſiſt too long in the uſe of internal medicines of this tribe; unleſs the length of the diſtemper has ſo far weakened the patient, as to render even more powerful cordials neceſſary. For ſuch little roughneſſes of the skin are not able to bring on a good *criſis*, but on the contrary generally denote a difficult and tedious illneſs: wherefore, without diſcontinuing the bliſters, the cauſe of the diſeaſe is to be carried off by other ways, eſpecially through the inteſtinal canal by gentle purges of *rhubarb*, or *manna* and *Glauber*'s *ſalt*.

IT is to be obſerved, that this diſeaſe is not always terminated by any

by any one ſort of *criſis*. It has ſometimes one ſort, ſometimes another: and in ſome caſes ſeveral ſorts together; as I have already ſaid frequently happens in other malignant fevers. Thus at the ſame time that there are other diſcharges of the morbific matter, a thruſh ſometimes breaks out, and ſpreads all over the mouth and throat. This commonly begins with a hiccup: and if it be whitiſh and very moiſt, and occaſion a plentiful ſpitting; it is ſo far from portending any great danger, that it is a ſign of the diſtemper ending happily: but if it be of the black kind, and dry, and the ſpittle tough and little in quantity; it is of fatal omen, as it indicates the mouth and throat choaked up with ſlimy phlegm. In theſe caſes it is proper to uſe gargles made of *barley water* and *ſyrup* of *mulberries*, or ſome ſuch other ſyrup,

or

or the *pectoral decoction:* for repellents of all kinds are to be carefully avoided.

It may poſſibly ſeem ſtrange to ſome, that *Sydenham* preſcribed the *bark* in this fever and the *aphthæ* attending it, and ſays, he always found it to anſwer his expectations (1). But this was not a raſh practice in that ſagacious phyſician: for this fever often intermits, when the *aphthæ* do not appear; but it more frequently ends upon their going off. In both caſes this excellent antidote is of very great ſervice. And in juſtice to the memory of that great man, who had accuſtomed himſelf, after the example of *Hippocrates*, to obſerve the returns of epidemical diſeaſes, and found that they varied in the ſame ſeaſons of the year according to the diverſity of the

(1) See his *Schedula monitoria.*

weather;

weather; I muſt obſerve, that he was the firſt among us who deſcribed this fever: which, he ſays, took its riſe here in the month of *February* MDCLXXXIV, after the long ſevere froſt of the preceding winter. Hence it is probable, that it aroſe from the acrimony of the humors induced by the conſtriction of the fibres of the skin from cold, and the conſequent diminution of perſpiration.

SECTION V.

The petechial fever.

THE *petechiae*, from which this fever has its name, are broad, red ſpots, like the bites of fleas, not riſing above the ſurface of the skin. When they are livid or black, they are of very dangerous prognoſtic: becauſe they are really ſo many little gangrenes;

gangrenes; and therefore the more numerous they are, the more their conſequence is to be dreaded.

THE common practice of giving hot medicines in the begining of this diſtemper, in order to raiſe ſweats, is quite wrong. It is much the ſafer way, to check the gangrenous diſpoſition of the humors by the *bezoardic powder*, or rather the *compound powder of contrayerva*, with *nitre*, as is above-mentioned; or to aſſiſt nature with the *cordial confection* diſſolved in *ſimple alexeterial water:* and alſo to acidulate the patient's drink with *dulcified ſpirit of nitre*; to repair his ſtrength with *Rheniſh wine*; and infine a very proper drink will be *barley water* with *juice of lemons.* And all theſe liquors are to be drank plentifully. It will likewiſe be of uſe ſometimes, to adminiſter

ſome

ſome doſes of the *calx of antimony* and *bezoardic powder mixt*, in order to provoke ſweat: but the *calx* ſhould not be too much waſhed. Yet it is neceſſary to admoniſh, that it is not an uncommon caſe, eſpecially towards the latter end of the diſeaſe, that the patient's weak low ſtate requires warmer cordials; ſuch as *Virginia ſnake-root*, *contrayerva root*, the root of *wild valerian*, *ſaffron*, and the like. And infuſions of theſe in water will be far more convenient than their powders; eſpecially if they be mixt with a ſmall quantity of diſtilled vinegar.

SECTION VI.

The eryſipelas.

GREAT attention is to be given to that fever which is accompanied

with an *eryſipelas.* For in this, beſides the pain, thirſt and reſtleſſneſs, which the patient ſuffers; the puſtules on various parts of the body ſometimes run into gangrenes.

WHEREFORE the firſt thing to be done is, to draw blood pretty plentifully; and then to purge once and again with gentle cathartics, as *infuſion of ſena with manna.* For ſuch only are proper in fevers. And indeed there is no acute fever, that bears repeated purging better than this, eſpecially when the inflammatory tumor has ſeized the head: for the humor ſpreads very faſt, and ſoon gains the neighbouring parts.

BUT it is dangerous to apply hot fomentations, in order to diſcuſs the morbific matter; and much more ſo, to repel it with cooling oint-

ointments or liniments. But if the skin in any part be gangrened, that part is to be fomented with a decoction of *bitter herbs* mixt with *camphorated ſpirit of wine*; and afterward a cataplaſm of *oatmeal* boiled in *ſtrong beer* is to be laid on warm, and to be renewed as oft as is found neceſſary.

And to give this caution once for all; not only in acute diſeaſes, but in ſeveral chronical, which are attended with puſtules that ſuppurate, it is ſafer and better, unleſs the skin is the ſole ſeat of the ailment, to encourage the eruption by gentle means, or at leaſt to ſuffer it to come forth for ſome time (that is, as far as the patient can bear the uneaſineſs) than either to repel, or purge off the humor by other outlets. For there is in every kind of vicious humor ſome-

what peculiar to itſelf: and as they generally come forth by way of *criſis*; how much ſoever they may be diminiſhed, yet they are rarely evacuated out of the body, with relief to the ſick, by any other paſſages than thoſe pointed out by nature.

As to internal medicines, thoſe which I have recommended in eruptive fevers, are the moſt proper in this.

I CLOSE this eſſay on malignant fevers, with a few remarks on three other celebrated medicines, viz. *camphire*, *ſpiritus Mindereri*, and *musk*. And it is worth remarking that they are all powerful ſudorifics.

CAMPHIRE is vaſtly extolled by many. And indeed, not to mention other authors, that experienced

enced phyſician *Riverius* has given a caſe or two, in which it was of ſignal ſervice (1). However it is worthy of obſervation, that it was not then exhibited alone, but joined with cooling medicines (agreeable to the caution I gave, when hot medicines are given in petechial fevers:) for camphire is very hot. Wherefore the moſt convenient way of giving it is this.

TAKE of *camphire* one drachm; grind it with a little *rectified ſpirit of wine*; then mix it thoroughly with half an ounce of *double-refined ſugar*: and afterward pour on it gradually one pint of *hot vinegar*.

FOR thus that medicine, which is otherwiſe apt to create nauſeating,

(1) See *Obſervat. medic. centur.* ii. *obſ.* 18.

is

is rendered more agreeable to the ſtomach, and better adapted to the diſeaſe.

UPON the ſame principles *Mindererus's ſpirit* (1) is likewiſe of excellent uſe in all putrid fevers.

INFINE I have more than once experienced the good effects of *musk*, eſpecially when convulſions come on: and thus I order it.

TAKE of *musk*, the *cordial confection*, and *cinnabar of antimony*, each ten grains; mix, and with a little ſyrup make a *bolus*, to be repeated at proper intervals.

(1) Of the *Edinburgh Diſpenſatory*.

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SECTION VII.

Of particular fevers.

THOSE fevers, which are accompanied with an inflammation of any particular parts, require a treatment ſuitable to thoſe parts. I inſtance in

A pleuriſy.

IN which, after drawing as much blood as is neceſſary, draughts with *freſh-drawn linſeed oil* are of great ſervice for eaſing the cough; *nitre* for allaying the heat; for diſſolving the ſizy blood obſtructing the ſmall canals, *wild goat's blood and volatile ſalts:* and laſtly a bliſter laid on the part affected, in order to draw forth the peccant humor. The advantage of this external remedy I firſt learnt from *Sir Theodore*

dore Mayerne's practice (1); and I have for many years paſt uſed it with good ſucceſs. Infine toward the decline of the diſeaſe, when the inflammation is abated, it will be proper to purge the patient gently.

BUT I muſt not omit to take notice, that a purulent abſceſs or *empyema*, from an inflammation of the exterior membrane of the lungs, and its adheſion to the *pleura*, is ſometimes formed in this diſeaſe; and more frequently ſtill in a peripneumony. In this caſe, if the tumor points outward, a cauſtic ſhould be applied to it, to let out the matter: and the ulcer is to be kept open during life. For I have ſeen inſtances, where, upon healing it up, and conſequently ſtop-

(1) *De morbis internis Syntagma primum, Cap.* v. *De pleuritide.*

ping

ping the drain, the patient died in a little time.

SECTION VIII.

Of intermitting fevers.

THAT an intermitting fever is not carried off by the *Peruvian bark* with a proper degree of certainty, without premiſing a vomit or a purge, or both, is not unknown to phyſicians; but to join ſome mild cathartic to this remedy, will perhaps appear new in practice. For it is commonly thought among us, that this medicine has little or no effect, unleſs the patient be coſtive, while he takes it. But long experience has taught me, that it is quite neceſſary to add a ſmall quantity of *rhubarb* to this febrifuge; ſo as to procure two ſtools at leaſt every day. Nor have I ever obſerved

that this procedure has leſſened its virtue, but rather rendered it more efficacious. For although ſtrong irritating cathartics raiſe ſuch diſturbances in the blood and humors, as make the proper medicines ineffectual; yet moderate purging is attended with this good effect, that the ſtomach better digeſts whatever is taken in, whether medicines or food; whereby their fineſt and moſt wholſome parts paſs into the maſs of blood.

THE occaſion of my contriving this method of giving the *bark* was this. Near twenty years ago intermittent fevers, of a worſe ſort than ordinary, were very rife, and frequently terminated in a bad habit of body, and even in a dropſy; which conſequences when I had maturely conſidered, I thought that this method might probably guard

guard againſt them; nor was I deceived in my opinion. And the ſucceſs, with which it was attended, encouraged me to purſue it, whenever this diſeaſe attacked bodies loaded with groſs humors. But I was well aware of the danger of purging too much. Wherefore my cuſtom is, after having given a drachm or two of *rhubarb* in this manner, to omit the purgative, and continue the uſe of the febrifuge alone. And beſides the advantages already recited I made this obſervation, that when the diſeaſe is carried off by this method, there is always leſs danger of a relapſe.

Now, with regard to this noble medicine, I have this one admonition to give, that it is not proper in any other fevers but thoſe of the intermittent kind. For in continuals, it is ſo far from being of

ſervice, that it does much miſchief; and it is pernicious alſo in thoſe hectics, which are accompanied with ulcers of any of the internal parts; though they often have periodical returns, and much reſemble quotidian or tertian intermittents. Whence it may not perhaps appear an improbable conjecture, that this medicine operates on the bile alone; for that the bile has a conſiderable ſhare in cauſing intermitting fevers, I have not the leaſt doubt.

HOWEVER, it ſometimes happens that this febrifuge fails in true intermittents; which failure is generally owing to a bad habit of body. Wherefore the phyſician ſhould uſe his beſt endeavors to diſcover, in what part the fault lies; and it will be commonly found to be in the *viſcera* and glands of the *abdomen*. Upon this account

it

it will be neceſſary to preſcribe ſome purges, and ſometimes vomits; and in the intermediate days deobſtruents and ſtomachics, the beſt of which are *aromatic bitters* and preparations of *ſteel.* And for the ſame reaſon it is, that quartans are of more difficult cure than any other intermittents: for in theſe the blood and humors are inert and exceſſively viſcid; ſo that there are two diſeaſes to be conquered together, the bad habit of body, and the fever: which is generally done effectually, by joining *Virginia ſnake-root* and *ſteel* with the *bark.* However it may not be improper to take notice, that in ſome caſes where the bark did not anſwer, I have taken off intermitting fevers with a powder compoſed of *chamomile flowers, myrrh, ſalt of wormwood,* and a little *alum.*

BUT there is more danger attending that ſort of intermitting fever, by the Greeks named ἡμιτριταῖος, that is, *ſemitertian.* This fever returns every third day; and of forty eight hours the fit commonly takes up about thirty ſix, more or leſs; nor does the fever go off entirely, but only remits between the paroxyſms. —— Hence *Galen* was right in ſaying, that it was compounded of a continual quotidian and an intermitting tertian (1).

THUS a particular regard is due to this diſeaſe, which ſeems to be cauſed by an inflammation of ſome internal parts, accompanied with obſtructions from bilious humors and too viſcid lymph. Wherefore blood is to be drawn once or oftener, according to the patient's ſtrength:

(1) *De different. febr. Lib* ii. *Cap.* 7.

and

and gentle purgatives, ſuch as the *diuretic ſalt, manna* with *Glauber's ſalt*, and the like, are to be ordered and repeated at proper diſtances of time. Nor ought we to be haſty in giving the *bark*; for fear it ſhould encreaſe the inflammation by adding to the obſtruction of the *viſcera*, and bring on a hectic. It will be much ſafer, firſt, to order the ſaline draughts, with *juice of lemons*, *ſalt of wormwood*, and *ſimple cinnamon water*, to be taken frequently.

SECTION IX.

Of epidemic fevers.

EPIDEMIC fevers are cauſed by ſome fault in our ambient air; and that is chiefly owing to the exceſs of heat, cold, drought, or moiſture, or to the unſeaſonable viciſſitudes of theſe qualities.

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In *Greece* and *Aſia*, where the ſeaſons are generally uniform, and the winds pretty regular from certain but different quarters in the different months of the year, it was eaſy for men of ſagacity to obſerve the changes of the weather, with their good and bad effects. And on a long uſe of this method of obſervation was built the art of prognoſtic in diſeaſes; wherein *Hippocrates* the father of phyſic firſt excelled.

But in our climates ſuch is the inconſtancy of the weather, and ſo many are the cauſes that raiſe different and even contrary winds on a ſudden, that it ſeems impoſſible to erect any ſolid ſuperſtructure on that foundation. And accordingly *Sydenham*, who, in imitation of *Hippocrates*, attempted to deſcribe the fevers of each reſpective year, and

to

to account for their differences from the difference of the weather and ſeaſons, found at length " that he " had made no progreſs in diſcover- " ing the cauſes of epidemical " diſeaſes by obſerving the manifeſt " qualities of the air: as having " remarked that in different years, " which agreed perfectly well in " the viſible temperature of the " air, the reigning diſeaſes were " very different, and ſo on the con- " trary: and likewiſe that there are " various conſtitutions of years, " which depend not on heat, " cold, drought or moiſture, but " on ſome occult and inexplicable " alteration in the very bowels of " the earth (1).

Now, this matter, in my opinion at leaſt, ſtands thus: that the manifeſt qualities of the air

(1) *Obs. med. Cap.* ii. *De morbis epidemicis.*

have a conſiderable ſhare in producing epidemic diſeaſes, is a point that admits of no doubt; but there are other conjunct cauſes, which alter the force of thoſe qualities, either by encreaſing or diminiſhing them. Theſe chiefly ſpring from the earth, as *Lucretius* wiſely ſaid,

— *ubi putrorem humida nacta eſt,*
Intempeſtivis pluviiſque et ſolibus
icta (1).

When ſhe's grown putrid by the
rains, and ſweats
Such noxious vapors, preſs'd by
ſcorching heats (2).

Now as this terreſtrial putridity is chiefly occaſioned by rotted vegetables, and ſometimes alſo by the dead bodies of animals, and by

(1) *Lib.* vi. v. 1099. (2) Creech's Lucretius, B. vi. v. 1057.

mine-

minerals; ſo the waters, eſpecially of lakes and moraſſes which have their plants and animals, in the ſame manner frequently exhale peſtilential vapors, which infect the circumambient air. In this claſs may be ranged, tho' rarely happening in our climes, inundations, earthquakes, eruptions from mountains, and all other remarkable and uncommon *phænomena* of nature, which are capable of filling the air, we breathe, with particles offenſive to animal life. For theſe affect our bodies, and prepare them for the eaſy reception of diſeaſes.

SECTION X.

Of ſlow or hectic fevers.

SLOW fevers, commonly called hectic, are owing to ſo many different cauſes, that they may well

ſeem, not to be the ſame, but different diſeaſes. Of all this tribe the moſt pernicious are thoſe, which ariſe from an ulcer in any principal part of the body, the lungs eſpecially, by the purulent matter mixing with the blood, and diſturbing its natural motion.

Now it is to be obſerved, that the perſons moſt liable to theſe exulcerations of the lungs, are ſuch as had been afflicted with ſcrophulous diſorders in their infancy or youth. To which purpoſe I remember the experienced Dr. *Radcliffe* was wont to ſay, that pulmonary conſumptions in this and the colder countries are generally ſcrophulous. And indeed, in the diſſection of bodies dead of conſumptions, we very often find the lungs beſet with tubercles or indurated glands, which had

had ſuppurated and thrown off purulent matter.

MEDICAL writers have accurately deſcribed the various ſtages of this diſeaſe, as they ſucceed each other; but they have not taken ſufficient notice, that ſome of its firſt cauſes have their periods or returns. And yet it is of great conſequence to obſerve and prevent theſe periodical returns, as much as poſſible. Thus we ſee ſeveral perſons at certain or ſtated times ſeized with a ſpitting of blood, or a defluxion of thin ſeroſites on the lungs, and ſometimes with bilious vomitings. In all theſe caſes the *bark* is of ſervice, if joined with pectorals, and given before the expected return of the diſorder: which rule holds equally good in other hæmorrhages. But, when the lungs are actually ulcerated, this

this ſame medicine is very prejudicial; as ſhall be taken notice of anon.

In ulcers of the lungs phyſicians particularly recommend a *milk* courſe, as having the double advantage of being food and phyſic. But this practice is liable to ſome caution; becauſe ſome people have a natural averſion to milk. Moreover, in head-achs, acute fevers, and exceſſive thirſt occaſioned by them; and likewiſe in flatulencies, in bilious looſeneſſes, and very bloody ſtools, milk ought always to be deemed a poiſon (1). Now we generally give the preference to aſſes milk, though leſs nutritive; becauſe it is more cooling and detergent. But when it cannot be conveniently had, whey made of cows milk, or even of goats milk,

(1) *Hippocr. Aphor. Sect.* v. 64.

may

may be ſubſtituted in its room, eſpecially if the goats have been fed on fragrant herbs: but cows milk itſelf, although diluted, as uſual, with barley-water, is very frequently inconvenient. And the whey may be rendered more ſuitable to the diſeaſe by infuſing ſtomachic and carminative herbs in it. But it happens unluckily ſometimes, that when milk is extremely neceſſary for the body, ſuch is the laxity of the inteſtines, that they cannot bear it. In this caſe, the milk may be medicated in this manner. Take of *red roſes* dried, of *balauſtins*, *pomegranate rind* and *cinnamon*, each one drachm; boil them in a pint of *cow's milk*. When the decoction begins to boil, pour a little cold water into it, to make it ſubſide: repeat this proceſs ſeveral times, till you have uſed a pint of water, and till the milk and water together

ther are reduced to a pint. Then ſtrain off the liquor, ſweeten it with ſugar, divide it into convenient draughts, ſo that the patient may take the whole quantity every day. This diet will anſwer the double intention, of affording nouriſhment, and reſtraining the looſeneſs; without putting the leaſt obſtacle to the uſe of other food or medicines.

Now, it is of the utmoſt conſequence, to attempt the cure of this dreadful diſeaſe early; and as it ariſes from inflammation, it requires not only one, but ſeveral bleedings. If the blood be thick and black, or ſizy, it is called bad blood, and is thought to indicate further bleeding; but if it be red and florid, it is eſteemed good, and the lancet is no more uſed. But this notion is apt to lead into miſtakes: for it is not

not uncommon to ſee blood drawn, when in the higheſt efferveſcence, extremely florid, and at the ſame time thick and ſizy: in which caſe bleeding ought to be repeated till its redneſs and ſizyneſs are diminiſhed; which may be done without danger. It will poſſibly be thought a raſh practice to draw blood, even when the patient is much waſted in his fleſh, and very weak. But it is better to try a doubtful remedy than none; and a temporary leſſening of the ſtrength is of ſervice, when attended with a removal of part of the cauſe, which would weaken the body more and more every day. Wherefore, if the lungs be ulcerated, and the fever run high, it will be proper to take away as much blood as the patient can bear, at proper intervals, ſo as to allow the body time to recruit. I have ſeen caſes, judged

almoſt deſperate, where this method of practice ſucceeded well: but if it happen otherwiſe, the phyſician is not to be branded with the death of the patient, whoſe *viſcera* were ſo corrupted, that it was impoſſible to ſave him.

BEFORE I quit this article I muſt obſerve, that fumigations with balſamics, ſuch as *frankincenſe*, *ſtorax*, *amber*, *benzoin*, in order to correct and ſweeten the acrid and ſalt humors, is of vaſt ſervice in ſome caſes: which is to be done by throwing the ingredients on red coals, and receiving the fumes thro' a proper tube directly into the windpipe and lungs (1). I am very ſenſible, that this method of adminiſtering balſamics is almoſt entirely neglected, as uſeleſs. But

(1) See *Chriſtophori Benedicti tabidorum theatrum, ſub finem. Lond.* 1656.

whoſoever

whoſoever conſiders the length of the way, which they muſt make by the blood-veſſels, before they reach the lungs; and what a ſmall part of them comes to the place of their deſtination; will eaſily ſee, that this is the beſt way of communicating their virtue, if they have any.

For the ſame reaſon I have known the ſmoke of *balſam of Tolu*, ſucked into the lungs through a proper tube, as we ſmoke tobacco, to be of ſignal benefit, eſpecially in ſpitting of blood.

To theſe little ſuppurations it may not be improper to ſubjoin a larger abſceſs, which is ſometimes formed in the ſame part, and is named a *vomica*. This diſeaſe, tho' bad in itſelf, and often terminates in a conſumption, yet is not attended with ſo much danger, as thoſe

leſſer exulcerations. For I have ſeen caſes, wherein the patients in a fit of coughing threw up a pint or two of purulent matter of ſuch an exceſſive ſtench, that people could not bear the room, mixed with blood; and yet they were perfectly cured by a milk diet and balſamics, with anodynes properly interperſed

Thus far of the *phthiſis* or pulmonary conſumption.

But there are two other ſpecies of conſumption, which waſte a perſon different ways. In one the body is not nouriſhed; and as ſome particles are always naturally flying off, and nothing coming to ſupply their place, an exceſſive waſting of fleſh enſues, which is called an *atrophy*. This is very frequently owing to a defect in the nervous fluid; and is either accompanied with a *cachexy*, which

which is the other ſpecies, or gradually brings it on. In both ſpecies the food is corrupted by reaſon of the bad habit of body, and the parts are not recruited: and therefore a well regulated courſe of living, and *ſteel* medicines to ſtrengthen the ſtomach, with laxatives at proper diſtances, are particularly indicated.

Laſtly in all decays exerciſe and frictions, according to the patient's ſtrength, ought to be conſtantly uſed: change of air is generally of ſervice, and ſometimes a long ſea voyage. Patients laboring under diſorders of the lungs in this country, are very juſtly ſent to *Lisbon* or *Naples*. But riding on horſeback, if practicable; if not, in a coach, or a litter at leaſt; or ſome other manner of moving the body, is always proper.

CHAP-

CHAPTER II.

Of the diſeaſes of the head.

SECTION I.

The apoplexy.

MOST diſeaſes of the head have a great affinity with each other, and commonly proceed from repletion. Of theſe the principal is the apoplexy, which is ſometimes owing to an over viſcid blood, circulating too ſlowly, and almoſt ſtagnating in the arteries of the head: and this viſcid blood, being perpetually urged forward by the force of the heart, burſts its veſſels; and lodging on the brain, and

and compreſſing the nerves ſubſervient to the motions of the body, obſtructs their ducts, and prevents the influx of their native juice. But it is more frequently cauſed, without any conſiderable rupture of the veſſels, by a watery and red humor tranſuding from the blood, or by the juice ouzing out of the circumjacent glands, which loads the membranes of the brain, fills its ventricles, and ſtops the courſe of the animal ſpirits. The former of theſe may be called the *ſanguineous* apoplexy, the latter the *pituitoſe*. To that *Hippocrates* gives the epithet of *ſtrong*, and pronounces it incurable; and to this he gives that of *light* or *weak*, and yet ſays it is difficult to be cured (1). A great number of hiſtories of both

(1) *Aphor. Sect.* ii. 42.

ſorts

ſorts may be read in *Wepfer* (1): and *Bellini* has moſt rationally accounted for all the ſymptoms, in this and the like diſtempers (2).

I ſhall not dwell on external cauſes, ſuch as blows, falls, and fractures of the skull occaſioned by them; becauſe they indicate no peculiar treatment, but what depends on ſurgery.

The *ſanguineous* kind requires plentiful and frequent bleeding, both from the arm and jugular veins; but purging is more requiſite in the *pituitoſe*. Opening the occipital veins, propoſed by *Morgagni* (3), is likewiſe of conſiderable benefit, as I have experienced in ſeveral very dangerous caſes. For as theſe veins have a communication

(1) *Obſerv. anatom. ex cadaveribus eorum, quos ſuſtulit apoplexia, Amſtel.* 1731.
(2) *De morbis capitis.*
(3) *Adverſar. anat.* vi. *animadv.* 83.

within

within the brain with both the lateral ſinuſes; by opening theſe veins, part of the blood, which they would have conveyed into the ſinuſes, is taken off; and the quantity of blood in the ſinuſes being thus ſomewhat diminiſhed, its motion through them is more eaſily performed. And therefore cupping in the nape and ſides of the neck, with pretty deep ſcarifications, to give a free paſſage to the blood, is always uſeful.

UPON the ſame account alſo it is, that drawing blood from the temporal arteries, which ſome authors recommend, is of ſervice, if it can be of any. As to the ſafety of this operation, *Galen* indeed aſſerts, that he ſaw an artery, even in the arm, opened without any great inconvenience (1). But yet the quantity of

(1) *Method. medendi, Lib.* v. *Cap.* 7.

blood, taken away by opening the temporal artery, is ſo inconſiderable, that much benefit cannot be expected from that practice. Wherefore it would be better to follow the advice, which *Aretæus* gives in an inveterate headach, *of opening the two arteries behind the ears* (1); becauſe they will diſcharge more blood, that would have run into the head, than the temporal arteries can.

BLISTERS are likewiſe to be laid on the head and all the limbs; and cathartics are neceſſary, taken both by the mouth and by way of clyſter: but they muſt be acrid and powerfully ſtimulating; becauſe the nervous fibres are become very torpid.

THE *lethargy* and *carus* are lighter ſpecies of the apoplexy.

(1) *De morb. diuturn. curat. Lib.* 1. *Cap.* 2.

SEC-

SECTION II.

The palſy.

THE apoplexy, when it is not mortal, very frequently terminates in a palſy, which is the criſis of the diſeaſe: and this palſy generally ſeizes but one ſide of the body. And what the above-cited *Morgagni* obſerves after *Valſalva*, *that on diſſection of the bodies of apoplectics, who had been ſeized with a hemiplegia, he always found the cauſe of the diſeaſe in the oppoſite ſide of the brain* (1), I have formerly found true more than once in St. *Thomas*'s hoſpital.

THERE is now no longer any room for blood-letting, or draſtic purges; it will be ſufficient to give warm and moderate cathartics now

(1) *Adverſar. anat.* vi. *animadv.* 84.

and then, ſuch as the *tinctura ſacra.* And as the diſeaſe is now become chronical, inſtead of bliſters, it will be requiſite to make iſſues in proper places, eſpecially in the nape of the neck, and above the *ſcapulæ*, either with the actual cautery, or with cauſtic medicines. *Hippocrates* adviſes to apply the actual cautery in eight places at leaſt, and ſpecifies them (1).

THE cure is to be chiefly proſecuted with aromatic ſtrengtheners and *ſteel.* And beſides, it is of ſervice to ſtimulate the skin of the paralytic part: which is extremely well effected by the *green ointment*, mixed with a ſeventh or eighth part of the *ſtrong ſpirit of vitriol:* and when the part begins to be rubefied, this liniment is to

(1) *De Morbis, Lib.* ii. *Sect.* 12.

be

be removed, and the part anointed with *ointment of elder*. Cold bathing is very beneficial in perſons not too far advanced in years; but hot bathing is prejudicial to all paralytics. And I have known ſome caſes of paralytics, ſent to *Bath* by a miſtaken notion of their phyſicians, who, upon coming out of the bath, were ſeized with a return of the apoplexy, which carried them off.

WHEREFORE I take this occaſion to publiſh ſome remarks, which I have made on theſe waters. Their chief virtue ſeems to me to conſiſt in a certain mineral heat, whereby they warm and cheriſh the ſtomach and inteſtines; and therefore they are chiefly ſerviceable to thoſe, who have ruined their appetite and digeſtive faculty by drinking wine or other ſpirituous liquors: which is well known to be the cauſe of a number

number of evils. But they are very prejudicial to all, whoſe inward parts, as the brain, lungs, liver or kidneys, are too hot. And for the ſame reaſon, though they may be agreeable to, and mend the ſtomach; yet, if the uſe of them be continued too long, they more frequently hurt this organ; that very warmth, which was beneficial at firſt, by immoderate perſeverance becoming prejudicial, by over-relaxing the fibres. A circumſtance, which I have ſeveral times obſerved more particularly in patients, whoſe diſeaſes were owing to a fault in the nervous fluid.

THIS diſeaſe never is acute, is often tedious, and in old people almoſt incurable; and the patient for the moſt part drags a miſerable life. For the vigor of his mind

together

together with his memory are loſt, or vaſtly impaired; he totters and ſhakes, and is become a diſmal ſight; as if no longer a man, but an animal half dead.

St. Vitus's dance.

THIS odd diſeaſe, both in ſymptoms and name, is of the paralytic kind, and is cured by frequent cold bathing and chalybeate medicines, as I have already ſaid upon another occaſion (1).

SECTION III.

The epilepſy and vertigo.

CONCERNING the periodical returns and method of cure of both theſe diſeaſes, I refer the reader to another book (2), in which I treated of them pretty amply.

(1) *Influence of the Sun and Moon, page* 92.
(2) *The ſame, page* 38, *&c.* 87, *&c.*

HOW-

HOWEVER, to what has been there ſaid, I think proper to add two admonitions. The firſt is, that the *vertigo* is very often more a diſeaſe of the ſtomach, than of the head; or at leaſt that both theſe parts are affected together, from a quantity of bilious and viſcid humors lodging in the guts. When that is the caſe, no medicines will be effectual, without premiſing a vomit of *Ipecacoanha wine*, or ſome other proper emetic. And afterward *Mynſicht*'s *elixir of vitriol*, taken in ſpring water an hour or two before and after dinner, will mend the appetite and digeſtion.

THE other is, that the *Peruvian bark*, joined to ſome medicine appropriated to the diſeaſe, has frequently been of great ſervice, eſpecially if it be given thus.

TAKE

TAKE of *Peruvian bark* one ounce; of *wild valerian root* powdered two drachms; of *ſyrup of orange-peel* a ſufficient quantity; make an electary.

Of this let the patient take a drachm, after the proper evacuations, morning and evening for three months together; and then repeat it three or four days before the new and full moon.

The tetanus.

THIS uncommon diſeaſe is a violent preternatural convulſion of the muſcles of the whole body: and therefore is to be treated with the ſame medicines as the epilepſy.

CHAPTER III.

Of madneſs.

THERE is no diſeaſe more to be dreaded than madneſs. For what greater unhappineſs can befall a man, than to be deprived of his reaſon and underſtanding; to attack his fellow-creatures with fury like a wild beaſt; to be tied down, and even beat, to prevent his doing miſchief to himſelf or others: or, on the contrary, to be ſad and dejected, to be daily terrified with vain imaginations; to fancy hobgoblins haunting him; and after a life ſpent in continual anxiety, to be perſwaded that his death will be the commencement of eternal puniſhment? And to all theſe

may

may be added this unhappy circumſtance, that the diſorder is very difficult to be cured. Now in order to the clearer comprehenſion of what I have to ſay from experience on this diſeaſe, I will premiſe a few hints concerning its nature.

A very frequent cauſe of this evil is an exceſſive intention of the mind, and the thoughts long fixed on any one object, even though it be of the pleaſing kind. For ſuch intention of mind, ſuch fixed thought, is capable of perverting the rational faculties, as we ſometimes obſerve in ſtudious perſons: but when it is blended with ſome of the paſſions, as hope, fear, anger, *&c.* the diſorder is hightened; and the madneſs is accompanied either with melancholy or fury, according to the nature of the cauſe, and chiefly according to the natu-

ral propenſity of mind in the patient to this or that paſſion. Now nothing diſorders the mind ſo much as love and religion, I mean falſe and vain religion, or ſuperſtition. Love is attended with hope, fear, jealouſy, and ſometimes with wrath and hatred ariſing from the latter. Superſtition fills and diſtracts the mind with vain terrors, and notions of divine vengeance. Hence it happens, that the madneſs of perſons in love is more generally of the maniacal, and that of ſuperſtitious people of the melancholic kind.

BUT theſe two diſorders ſometimes take each other's place, and undergo various degrees of combination.

INFINE madneſs riſes to the greateſt highth, when the mind is racked with contrary paſſions at the ſame

ſame time; as wrath and fear, joy and grief: which by drawing it different ways, at length quite overpower it.

We all know the conſtitution of our fabric to be ſuch, that whatever images preſent themſelves to the mind, whether of things that may be beneficial or prejudicial to us, they neceſſarily excite certain affections or paſſions in the ſoul, which are inſtantly followed by ſuitable motions in the body. Thus joy, grief, hope, fear, deſire, anger, even againſt our will, act upon, and cauſe alterations in the body, by raiſing commotions in the blood and humors. And it matters not, whether the ideas be true and real, or falſe and imaginary, provided the mind has been long intent upon them: nay we often find by experience, that the ſoul is more powerfully

fully wrought on by imaginary than real evils. Thus the vain dread of impending poverty is ſo much more intolerable than the real affliction itſelf, as to drive timorous people to lay violent hands on themſelves. So far is the life of man expoſed to miſeries on every ſide!

Now the inſtrument of all theſe motions, both of the mind and body, is that extremely ſubtile fluid of the nerves, commonly called *animal ſpirits*. Concerning the nature of which we have formerly (1) offered our conjectures, and have ſhewn that this active fluid is very ſuſceptible of various alterations; a remarkable inſtance whereof we have in the very diſeaſe, of which we are now treating.

(1) See *Introduction to the eſſays on poiſons, edit.* 3.

MEDI-

MEDICAL writers diſtinguiſh two kinds of madneſs, and deſcribe them both as a conſtant diſorder of the mind without any conſiderable fever; but with this difference, that the one is attended with audaciouſneſs and fury, the other with ſadneſs and fear: and that they call *mania*, this *melancholy*. But theſe generally differ in degree only. For melancholy very frequently changes, ſooner or later, into maniacal madneſs; and, when the fury is abated, the ſadneſs generally returns heavier than before: hence all maniacal people are fearful and cowardly; which is an obſervation of great uſe in practice. Now, that the animal ſpirits acquire various preternatural properties, as I have already ſaid, in all madneſs, is eaſily demonſtrated. But a ſurprizing circumſtance in this diſtemper is, that it not only often preſerves the patient from other

other diſeaſes; but when it ſeizes him actually laboring under them, it lays ſuch ſtrong claim to the whole man, that it ſometimes diſpoſſeſſes the body of them. And this happens, not only in ſlight ailments, but alſo in great and dangerous illneſſes; ſo that we may ſay with the poet,

Aliquiſque malo fuit uſus in illo.
Some benefit reſulted from that evil.

I remember to have ſeen two remarkable inſtances of the truth of this obſervation. One was the caſe of a young lady about twenty years of age, of a lively chearful temper, but weakly conſtitution; who from a bad habit of body fell into a dropſy of the *abdomen*, with great waſting of fleſh. After trying all methods of cure to no purpoſe, when

when ſhe was paſt all hopes of recovery, ſhe was on a ſudden ſeized with madneſs (from what cauſe I know not) attended with great anxiety and vain terrors of mind: for ſhe imagined that ſhe was to be apprehended, tried, condemned and executed for high treaſon. In the mean time ſhe gathered ſtrength, and the ſwelling of her belly ſubſided viſibly: ſo that in a ſhort time I judged her able to bear more powerful medicines adapted to her two diſeaſes. Accordingly ſhe was put into a courſe of emetics, cathartics, diuretics and ſtomachics; which had ſo good an effect, that in ſome months ſhe recovered perfect health of mind and body.

THE other, ſomewhat different from the foregoing, was alſo the caſe of a beautiful young lady, who

was, in the twenty-eighth year of her age, ſeized with a violent cough and ſpitting of blood. For which ſhe was blooded plentifully in the arm, every other day, five or ſix times. This diminiſhed the violence of the ſymptoms, but did not entirely remove them: and in two months a hectic came on, attended with thirſt, heat, and night ſweats; together with great waſting of fleſh, and frequent ſpitting of tough ſlime, from the lungs and throat, interſperſed here and there with ſmall portions of yellow purulent matter. Now ſhe was running into a true pulmonary conſumption, and death ſeemed to be at the door. Whereupon the patient began to be anxious for the ſalvation of her ſoul. She was immediately viſited by her ſpiritual guides; who, inſtead of quieting her conſcience, and raiſing her hopes, ſtrongly inculcated

culcated that the way to heaven was rugged and difficult, and not to be paſſed without faſting, prayer, and anguiſh of mind: as if the happineſs of the life to come was not to be purchaſed but by the unhappineſs and miſeries of this life. But obſerve the event. The miſerable young lady, overpowered by ſacred terrors, was ſoon ſeized with religious madneſs. Night and day ſhe ſaw the appearances of devils, ſulphureous flames, and other horrid images of everlaſting tortures of the damned. But from this time the ſymptoms of the original diſeaſe began to abate: the febrile heat decreaſed, the ſpitting ſtopped, the ſweats grew leſs; and her whole habit was ſo much changed for the better, that the bodily ſtrength ſeemed to become more adequate to performing the functions of life, in proportion as the

mind grew leſs capable of governing the body. But in a few days ſhe grew quite melancholic. Wherefore the diſeaſe was treated by evacuations, proportioned to her ſtrength, and other proper medicines; which ſeemingly had ſo good an effect, that there appeared ſome hopes of a perfect cure. But alas! toward the end of the third month, the hectic and ulceration of the lungs returning, this charming virgin died conſumptive, who ſeemed worthy of a better fate.

THIS diſeaſe then entirely conſiſts in the ſtrength of imagination. For pleaſing or terrifying images are repreſented to the mind; and theſe, in the ordinary courſe of nature, are neceſſarily followed by ſuitable, and as it were coherent, motions of the body. Hence even brutes ſometimes run mad, that is,

are

are deprived of their reaſon: for (whatever ſome harebrained philoſophers ſay to the contrary) they have a ſhare of reaſon proportionate to their reſpective natures.

DAILY experience convinces us of the vaſt power of this faculty. For what is more wonderful, than that a man ſhould perſwade himſelf that he is changed into a dog or a wolf; that he is actually dead and converſing with the dead, while he is full of life and ſtrength; that he wears a head of glaſs or clay; and a hundred other ſuch extravagant fancies, of which mad folks are ſometimes poſſeſſed. And yet what often happens to pregnant women, ſeems ſtill more aſtoniſhing, nay almoſt incredible. For 'tis well known, that when they are ſeized with violent longings, it is not uncommon to ſee the child marked

marked with the fruits, or other things, for which they longed; and theſe marks ſometimes laſt as long as life. However ſurprizing theſe things may be, they yet fall ſhort of the following fact related by *Mallebranche*, which comes nearly up to a prodigy (1). "About "ſeven or eight years ago (ſays he) "there was in the hoſpital of in- "curables (at *Paris*) a young man, "an ideot from his birth, whoſe "body was broken in the ſame "places, in which criminals are "broken. He lived near twenty "years in that condition: many "perſons ſaw him, and the late "queen mother making a viſit to "that hoſpital, had the curioſity "not only to ſee, but even to touch "the arms and legs of this youth, "in the places where they were

(1) *Recherche de la verité. Tome* I. *Liv.* ii. *Chap.* 7.

"bro-

" broken." The cauſe of this unhappy accident was ſoon found to be, that the mother, while big with this child, was preſent at the execution of a malefactor, who was broke alive on a croſs with an iron bar. That ſhe was exceſſively terrified, it is eaſy to believe; but how the force of her imagination could produce ſuch an effect on the *fœtus*, is a matter of great difficulty. *Mallebranche* attempts to account for it, in his uſual manner, by ingenious conjectures, ſaying, that the imaginary faculty is a certain inward ſenſation, which is entirely performed by the aſſiſtance of the animal ſpirits: that the *fœtus* ought to be deemed a part of the mother's body, ſo that, whatever any part of the mother ſuffers, is by ſome occult communication tranſmitted to the ſame part in the *fœtus*. Wherefore when the pregnant woman

man was ſhocked at that dreadful ſight, poſſibly ſhe ſuffered pain, and even ſome degree of laceration of the fibres, in the ſame limbs, which ſhe ſaw broken in the malefactor: but as her bones were firm and ſolid, they were capable of reſiſting the ſhock; whereas thoſe of the *fœtus*, being ſcarcely knit, were eaſily broken, ſo as never to unite again. But whether this reaſoning be juſt, or not, the fact is a manifeſt proof, that the imagination has a wonderful degree of power to affect the body.

ANOTHER remarkable circumſtance is, that immoderate joy, too long continued, as effectually diſorders the mind as anxiety and grief. And the reaſon ſeems to be, that the pleaſing images, which are conſtantly preſent to the mind, ſuffer it not to attend to other things:

things: and as it is ſtruck and interrupted a thouſand ways by objects, which neceſſarily occur every day; hence conflicts ariſe, which give a wrong turn to, and at length deſtroy, the thinking faculty. To which may be added the notions of ſolicitude and fear, leſt ſome unforeſeen ſtroke of adverſe fortune ſhould overturn this happy ſtate. I have formerly heard Dr. *Hale*, phyſician to *Bethleem-hoſpital*, and of great experience in theſe matters, ſay more than once, that in the year MDCCXX, ever memorable for the iniquitous ſouth-ſea ſcheme, he had more patients committed to his care, whoſe heads were turned by the immenſe riches which fortune had ſuddenly thrown in their way, than of thoſe, who had been completely ruined by that abominable bubble. Such is the force of inſa-

tiable avarice in deſtroying the rational faculties!

But it is ſtill more to be wondered at, that mad folks, eſpecially of the melancholic tribe, ſometimes take it ſtrongly into their heads, to do things which give the greateſt pain and uneaſineſs to the body; than which nothing is more contrary to human nature. For, though periſhing with hunger, they obſtinately refuſe, and even abhor food, as if it were poiſon; and retain their urine for whole days together, though ready to burſt. In caſes of this kind the mind ſeems in ſome meaſure to be called away from the ſenſes, while it is impoſſible but that the pain muſt be felt: but the unhappy perſon obſtinately refuſes to give attention to what is tranſacted within his body. And it is not improbable, that he is poſ-

ſeſſed

ſeſſed with ſome vain notions, which make him patiently bear the pain he ſuffers: for example, that, if he does not, he will have more ſevere tortures inflicted on him; that the preſent pain was ſent down from heaven on him in puniſhment for his ſins, or is the effect of the devil's inevitable power, or of witchcraft, and many other ſuch empty notions. For there is nothing how incredibly ſilly ſoever, and contrary to good ſenſe, but may affect a depraved imagination.

But, to come at length to the cure, the phyſician's firſt care ought to be to conſider, what evacuations the patient is able to bear; becauſe evacuations of almoſt all kinds are generally neceſſary, if his ſtrength will allow them: if not, he is to be ſtrengthened by proper diet and

medicines, till ſuch time as he can ſafely bear evacuants. For, when the humors have been too much drained, it is not uncommon to ſee maniacal madneſs ſucceeded by an incurable dejection of mind and melancholy; under which the miſerable patient drags a tedious life in perpetual anxieties and ſadneſs: and mad men for the moſt part live very long. Now the proper evacuations in this diſeaſe are chiefly blood-letting, vomits, and purging by ſtool and urine: wherefore I ſhall offer a few remarks on each of theſe heads.

BLOOD is moſt commodiouſly drawn either from the arm or the jugulars; and ſometimes alſo by cupping with ſcarifications in the *occiput*; particularly in caſe of a head-ach, or of ſuch a degree of weak-

weakneſs as forbids the farther uſe of the lancet.

VOMITING is beſt excited with *Ipecacoanha wine* in the more weakly; but in the more robuſt with the *tincture of white hellebore*, or *antimonial wine*.

THE propereſt cathartics are *black hellebore*, or *infuſion of ſena* with *tincture of jalap*; or *aloes* infine, if the ſuppreſſion of the monthly evacuations in women, or of the hemorrhoids in men, requires diſcharges of blood by theſe natural ways. And theſe evacuations, both by vomit and ſtool, are to be often repeated, in alternate order. Nor does it ſeem improper to add, that this diſeaſe demands powerful medicines, becauſe in it the nerves are not eaſily ſtimulated.

BUT

BUT evacuation by the urinary organs is of greater moment than is commonly thought, eſpecially when madneſs is accompanied with a fever. For it is of little benefit to melancholics, who for the moſt part make too much urine. And the moſt appoſite diuretics in this caſe are the *lixivial ſalts of vegetables* and the *diuretic ſalt* ſo called: any of which, or both ſorts, may be given by turns, in pretty large doſes.

BLISTERING plaſters applied to the head will poſſibly be thought to deſerve a place among the remedies of this diſeaſe; but I have often found them to do more harm than good by their overgreat irritation. It will be better, in imitation of the ancients, to ſhave the head; and then to rub it often with *vinegar*, in which *roſe flowers* or *ground-*

ground-ivy leaves have been infuſed: and alſo to make a drain, by paſſing a *ſeton* in the nape of the neck; which is to be rubbed with a proper digeſtive ointment, and moved a little every day, in order to give free iſſue to the purulent matter. However, when the diſeaſe is of long ſtanding, bliſters are ſometimes ſerviceable.

WHILE the noxious humors are expelled by theſe means, the diſeaſe is likewiſe to be attacked by thoſe medicines, which effect a change in the body. The diet ought to be ſlender, chiefly gruel made of *oatmeal* or *barly*, and meats of eaſy digeſtion. For the body muſt be nouriſhed, that the patient may have ſtrength enough to bear the neceſſary evacuations.

AU-

AUTHORS, both ancient and modern, recommend a great number of medicines; ſome of which are ſuitable to maniacal, others to melancholic patients: but both ſorts agree in the property of correcting the bile; which is acrid at firſt, then becomes viſcid, and black as pitch. Moreover the very blood in this diſorder is thick, ſizy, and black: whence upon diſſection the brain appears dry, and almoſt friable, and the veſſels diſtended with black ſluggiſh blood. Now it will be of uſe to obſerve, that moſt of the medicines, proper to be given in this diſeaſe, are in ſome degree endued with the property of opening and ſcouring the glands, and encreaſing perſpiration. Of this kind are the ſtrong-ſmelling gums, eſpecially *aſa fœtida*, *myrrh*, *Ruſſian caſtor*, and *camphire*: which laſt

laſt is aſſerted by ſome authors of experience, to have likewiſe an anodyne quality, and to procure ſleep with greater certainty and ſafety even than *opium*. And in melancholic caſes, *chalybeates* are alſo very proper. Infine, a frequent uſe of the cold bath is very ſerviceable, eſpecially in maniacal caſes. For *nothing*, as *Celſus* ſays, *is of ſuch benefit to the head, as cold water* (1).

It now remains to lay down ſome rules for the management of mad folks, than which nothing conduces more to their cure: and different methods are to be employed with the maniacal and melancholic. The unruſineſs of thoſe is to be curbed; and the deſpondency of theſe to be diſſipated by

(1) *Lib.* 1. *Cap.* 6.

giving them hopes, and raiſing their ſpirits. And yet, with regard to thoſe who are outragious, it is not neceſſary to employ ſtripes or other rough treatment to bring them into order; binding alone being ſufficient for that purpoſe: becauſe, as I have already ſaid, they are all cowards; and when they are once ſenſible of being thoroughly conquered, they eaſily ſubmit for the future, and dare not offer violence to themſelves or others.

It is a more difficult matter to manage thoſe, whoſe madneſs is accompanied with exceſſive ſadneſs or joy; to whoſe different humors the phyſician ought to accommodate himſelf. Wherefore the ill-timed fits of laughter of ſome are to be ſtopped by chiding and threatening; and the gloomy thoughts of others

others are to be diſſipated: to which concerts of muſic, and ſuch diverſions, as they formerly took delight in, are very conducive. And how muſic affects and relieves both the body and the mind, I have formerly publiſhed my thoughts (1).

But it ought to be a ſtanding rule, to inculcate notions directly contrary to thoſe, with which they were long poſſeſſed; in order to inure the mind by degrees to a new way of thinking. For as in the caſe of a body, broken with ſickneſs or fatigues, reſt and intermiſſion of labour are proper to be ordered; ſo it is requiſite, by all practicable means, to draw off the mind from thoſe vain fancies, which it has imbibed. And this we ſhall

(1) *Mechanical account of poiſons, Eſſay* iii. See alſo what *Aretæus* ſays on this head: *De curat. acutor. Lib.* 1.

compaſs, if we turn it upon objects, which excite different motions in it. Thus in imaginary fears of long duration, it is ſometimes beneficial to affright the patient with real dangers. But theſe real terrors muſt in their own nature be quite unlike their falſe or imaginary ones, in order to cauſe a different agitation in the mind. For the mind cannot be abſolutely at reſt, though it may be free from care and anxiety: and a change of idea's may be deemed a recreation and relaxation from ſtudies: juſt as the muſcles of the limbs, when tired with any one ſort of labour, are refreſhed by putting them on different actions.

BODILY exerciſe is never to be neglected. Walking, riding, playing at ball, bowls, and other ſuch ſports; ſwimming, and travelling by land and ſea, are of great uſe: for by

by theſe the conſtitution of body is ſtrengthened, and the mind reſumes its rational faculties by the conſtant exchange of objects.

To what has been hitherto ſaid I ſhall ſubjoin one animadverſion more: that anodynes to procure ſleep are very ſeldom proper in this diſeaſe. But yet in ſome caſes, as in great terrors of mind, or when the patient, through ſolicitude and ſadneſs, is much fatigued with conſtant watching, it may not be amiſs to make trial of them; but we are not to perſiſt long in their uſe: for it often happens, even when they procure ſleep, that when the patient awakes, his head is filled with more terrifying idea's than before.

I cloſe this chapter with obſerving, that there is no diſeaſe, in which the danger of a relapſe is greater:

greater: wherefore every thing that has been hitherto propoſed for the cure, whether relating to medicines, diet, or manner of living, ought to be repeated for a conſiderable time at due intervals, even after the patient has recovered.

CHAP-

CHAPTER IV.

Of the quinſy.

MEDICAL authors have carefully treated of ſeveral ſorts of quinſies; but there are three ſorts, the moſt acute and fatal of all, the nature of which they have not explained with ſufficient accuracy. Of theſe the firſt may be called the *watery quinſy*, the ſecond a *gangrene of the tonſils*, and the third a *ſtrangulation of the fauces*.

IN the firſt ſort the glands of the mouth, palate, and neighbouring parts are diſtended and ſwoln. In the ſecond an inflammation without a perfect ſuppuration ſeizes the tonſils; which ſwell and grow hard;

hard; a gangrene ſoon enſues, which, if not very ſpeedily relieved, is fatal. In the third, all the nerves are convulſed, and the patient drops down dead ſuddenly. Of this third ſort I have ſeen one inſtance, in which though a large quantity of blood was drawn twice in ſix hours time, yet that evacuation was of no avail. Upon diſſection there was not even the leaſt appearance of ſwelling or inflammation in the glands or muſcles of the mouth and throat; but the blood-veſſels were turgid every where with a thick blood. This diſeaſe, however rare, is deſcribed by *Hippocrates*. *Of quinſies*, ſays he, *thoſe are the worſt, and ſooneſt fatal, which ſhew nothing remarkable either in the fauces or neck; and yet bring on very much pain and difficulty of breathing* (1). Theſe ſorts

(1) *Prognoſtic.*

are

are all very dangerous, and require ſome difference in the treatment.

I remember, that the *watery quinſy* reigned ſome years ago like an epidemic fever in *Wales*, eſpecially in places near the ſea, and carried off a great number of people in two or three days from their ſeizure. Whereupon being conſulted by a phyſician reſiding there, I wrote him this advice; to bleed plentifully as ſoon as poſſible, and empty the firſt paſſages by a clyſter, or, if practicable, by a gentle purge; and then to apply bliſters under the chin, and on the ſides of the neck: and if this courſe did not ſucceed, to ſcarify the palate pretty deeply about the *uvula* and ſublingual veins; in order to give vent to the matter of the diſeaſe. In the mean time, to carry off the fever, I recommended a powder made up

of equal parts of the *compound powder of contrayerva*, and *very pure nitre*. And this method ſaved very many lives.

In the gangrene of the tonſils, after bleeding and clyſters, the only remedy is, to make three or four pretty deep inciſions in theſe glands, which are to be dreſſed with *honey of roſes* mixed with a ſmall quantity of *Egyptian honey*: and at the ſame time the mouth and throat are to be gargled with a decoction of *barley* and *figs*. But it is to be obſerved, that all this is to be done in the begining of the diſeaſe: for in two or three days the gangrene ſpreads to the gullet, and is mortal. I have ſeen ſome patients ſaved by this method, and others die, in whoſe caſes it was either neglected, or applied too late: while the attending phyſicians were of opinion, becauſe

becauſe the fever ſeemed abated, that all was ſafe, and the patient out of danger; whereas they ought to have conſidered, that his fluttering pulſe, great inquietude, and cold ſweats ſucceeding each other, were forerunners of ſpeedy death.

THIS diſeaſe chiefly ſeizes children; and *Aretæus* (1) has, in his uſual manner, given an accurate deſcription of it; which *Severinus* (2) has illuſtrated with a learned comment, calling it the *peſtilential quinſy of children*, and commending the method of cure above deſcribed: as the Latin *Hippocrates* (3) had done long before him.

(1) *De cauſis et ſignis morborum acutorum, Lib.* 1. *Cap.* 9.

(2) *Diatriba de peſtilente ac præfocante pueros abſceſſu*, annexed to his book, *De recondita abſceſſuum natura. Francfurt*, 1643.

(3) *Celſus, Lib.* vi. *Cap.* 10.

THE ſtrangulation of the *fauces*, which I have called the third pernicious ſpecies of quinſies, if it can be foreſeen, ought to be prevented by evacuations of all kinds; I mean by bleeding, purging, bliſtering, iſſues, and diuretics. And it will be of ſervice to practice abſtinence, that is, moderation in eating and drinking.

CHAP.

CHAPTER V.

Of the diſeaſes of the breaſt.

Of the aſthma.

DIFFICULTY of breathing ariſes from many and very different cauſes. For whatſoever occaſions the ambient air to enter the lungs with leſs freedom than uſual, brings on this diſeaſe. Now for performing reſpiration, firſt the *thorax* muſt be dilated; which is effected by the actions of the diaphragm, and intercoſtal and abdominal muſcles. Next, the air muſt be received into the *aſpera arteria*; and therefore whenſoever this duct or its ramifications are obſtructed, either by a tumor, or by viſcid humors,

humors, a difficulty of breathing muſt enſue. Then, the air itſelf comes in for a partial cauſe; for if it be much heavier or lighter than uſual, it does not diſtend the veſicles of the lungs with ſufficient force. Likewiſe the tenderneſs of the very lungs ſometimes occaſions this diſtemper. For I have known ſome perſons, who breathed well enough in the thick air of the town; but upon going into the country, the clear air, which is beneficial to moſt aſthmatic patients, threw them into a very great difficulty of breath. Infine, the difficult paſſage of the blood through the lungs may be reckoned among the impediments of reſpiration. Now it is manifeſt that this may happen ſeveral ways; that is, through ſome defect in the heart, or in the blood itſelf. When the heart is weak, it does not ſufficiently drive the blood forward:

ward: and if the blood chance to be too thick, it is not ſo eaſily moved; and in ſome meaſure ſtagnating in its veſſels, diſturbs and retards the office of the air. We could enumerate ſeveral other cauſes of this diſeaſe, but theſe are principal ones; and they are more or leſs fatal according to their greater or leſſer combinations.

As this diſtemper is owing to different cauſes, ſo it requires different methods of cure. However in every ſpecies of it, blood-letting is uſeful, unleſs there be ſome particular contraindication. But that alone will not ſuffice: vomits too, and thoſe often repeated, are very proper, if the lungs or ſtomach be loaded with tough phlegm. The body muſt be kept open, but by no means with violent cathartics: for the moſt part pils made up of

equal

equal parts of *Rufus's pils* and *gum ammoniac*, and given every night, will anſwer that end. The patient is to be forbid the uſe of all flatulent food and drink; and to be ordered to uſe exerciſe till he is almoſt tired, and frictions, of the lower parts eſpecially, both by himſelf and others, till he is pretty near ſweating.

In the fits, the breath is to be eaſed as much as poſſible. In the caſe of viſcid and tough humors, this is effected by a mixture of *oxymel of ſquils* and *ſimple cinnamon water*; or *garlick* either raw or preſerved. But if the fault lie in the nervous juice, all the ſtrong-ſmelling gums are proper, eſpecially the *milk of gum ammoniac*. But it ought to be remembered, that anodynes, which are poiſons in the preceding caſe, are very ſerviceable

viceable in this, if joined with *volatile ſalts* or *ſpirits:* but of all this tribe I know no better medicine than the *paregoric elixir.*

Now, as ſome conſtitutions, through ſome defect of the ſolids or fluids, are apt to relapſe into this diſeaſe upon every occaſion; it is proper to give directions how to prevent it. Wherefore regard is to be had here, both to the conſtitution of the patient, and the nature of the diſeaſe. If he be of a hot conſtitution, coolers and acids, of the milder ſort, are indicated; the beſt of which are *vinegar* and the *oxymels:* but if it be cold, ſome warm medicines are ſerviceable; ſuch as the *roots of elecampane* and *zedoary*, *ſagapenum*, *myrrh*, and the like. In both caſes it is proper to give a vomit now and then; and to keep the body open with gentle

cathartics, as *Glauber*'s *ſalt*. Water with a little wine is the moſt convenient drink.

BUT whereas every kind of this diſeaſe is attended with more or leſs of effervescence in the blood, the beſt way to obviate this ſymptom is to give the *bark*, eſpecially about the uſual time of the return of the paroxyſm. And I have known ſome inſtances, where it has done vaſt ſervice, mixed with *cinnabar of antimony*.

LASTLY I muſt not omit, that iſſues above the ſhoulder-blades are good in all aſthmatic caſes; and it is very probable, that their benefit in this and ſome other diſtempers lies, not only in giving vent to the humors, but likewiſe in leſſening the over-great tenſion of the nerves.

YET

YET all theſe things are to be managed with caution. From the too frequent uſe of blood-letting a dropſy is to be apprehended. Drinking too much water is hurtful to old folks. Violent exerciſe cauſes ſhortneſs of breath: and ſo does the over-free uſe of acids by conſtringing the nervous fibres. So neceſſary is moderation even in medicine.

BUT for this and other diſeaſes of the breaſt I refer the reader to *Bellini, De morbis capitis, pectoris*, &c.

CHAPTER VI.

Of the diſeaſes of the heart.

AS the heart, the primary inſtrument of all animal motions, and in ſome meaſure the fountain of life, is a muſcle, or rather a collection of ſeveral muſcles; it is liable to the ſame indiſpoſitions with the other muſcles of the body.

BUT the diſorder, with which it is moſt frequently ſeized, is a *palpitation*, whereby its motion is interrupted for ſome little ſpace of time. This proceeds from very different cauſes. For ſometimes its fibres becoming paralytic do not drive the blood with ſufficient force.

At

At other times a *polypus*, formed in its ventricles or auricles, obſtructs its action. Again when the blood is too thick and too much in quantity, it is with difficulty thrown into the blood-veſſels. Likewiſe the motion of this muſcle may be impeded by an over-great quantity of water in the *pericardium*; though this indeed be a rare caſe. Stony concretions alſo put it out of order. And it ſometimes happens, eſpecially in aged perſons, that the tendons in the orifices of the ducts have acquired the hardneſs of bone; whereby their elaſticity is deſtroyed, and too great a reſiſtance is made againſt the propulſive motion. Nor is it to be omitted, that the want of a proper quantity of blood may occaſion this diſeaſe. For when this is the caſe, the animal ſpirits are ſecreted too ſparingly in the brain:

whence

whence the contraction of the heart is hindered, and there is an intermiſſion in the pulſe.

BUT it is to be obſerved, that this diſeaſe is generally a convulſion; and as in this ſtate the heart is not able to throw out a due quantity of blood at one contraction, it repeats its effort: a remarkable inſtance of what I ſaid in the Introduction, that even thoſe motions, which are called involuntary, are governed and altered by our mind.

AND let me add by way of prognoſtic, that this diſorder, when it riſes to a high degree, and frequently returns, generally ends in a *ſyncope*, or fatal weakneſs, which authors believe to be another diſeaſe of the heart.

NOW the method of cure is to be varied according to the nature of

of each of theſe various caſes. But this may hold good in general, that unleſs the patient be very weak, blood may be drawn; whereby the heart may be eaſed of part of the load of blood, which it is too feeble to throw into the arteries. And indeed I have often obſerved, that not only the palpitation of the heart, but even a *ſyncope*, ariſes from fullneſs: and thus this ſudden fainting frequently ſucceeds the ſuppreſſion of any cuſtomary diſcharge of blood, for example, from the noſe or hemorrhoidal veſſels: whence it follows that blood-letting muſt be very ſerviceable for preventing this evil. But it will hardly bear any other evacuations. The paralytic weakneſs of the fibres requires the medicines directed in the chapter *of the palſy*. Thick blood, which engenders a *polypus*, is corrected

rected by attenuating medicines, as volatile ſalts and fœtid gums. And bliſters are very proper to ſtimulate and rouſe the patient, eſpecially in caſe of fainting attended with ſleepineſs.

CHAP-

CHAPTER VII.

Of the diſeaſes of the ſtomach and inteſtines.

ON the diſeaſes of the ſtomach and inteſtines I have ſome things to propoſe, relating not only to what is to be done, but likewiſe to what is to be avoided. And firſt, although it be ſometimes extremely neceſſary to evacuate by vomit the viſcid phlegm, which loads the ſtomach; yet by too frequent vomits to invert that natural motion, by which the aliments are carried downward, is giving great diſturbance and impediment to the concoction of food.

INFUSIONS of the bitter herbs whet the appetite, and often help

digeſtion; but there is reaſon to fear that a long uſe of them may over-heat the muſcular fibres. Upon which account it is frequently more convenient to brace them with ſome acids, eſpecially *Mynſicht's elixir of vitriol*; under this caution however, that they are not to be given, while the phlegm in the ſtomach is tough. For a very common diſorder of the ſtomach is relaxation; and that certainly requires the bracing of its fibres.

SECTION I.

Of a looſeneſs.

A looſeneſs is eaſily ſtopped. I ſpeak of that ſort, which is without a fever: for when it comes on a fever, we are to conſider, whether it may not prove a criſis of the diſeaſe. But when the caſe is a looſeneſs alone, it will be generally ſufficient,

ficient, after a vomit or two with *ipecacoanha wine*, to purge with ſome doſes of *rhubarb*; and then to ſtrengthen the inteſtines with aromatics and *chalk* or *french bole*.

The bloody flux.

BUT the caſe is attended with greater difficulty, when the looſeneſs is accompanied with a bloody flux or ſevere gripes. For then the inteſtines are commonly ulcerated, and diſcharge blood; which comes away ſometimes with liquid excrements, ſometimes with ſlime accompanied with fleſhy particles. The patient is teized with frequent irritations to ſtool, and a pain in the *anus*; he diſcharges but little at a time, and his pain is encreaſed by every ſtool: and as this diſeaſe ariſes from an inflammation, there is always ſome degree of fever with it.

WHEREFORE, to come to the cure, the firſt thing to be done is to draw blood. Then a vomit is to be given, for which *ipecacoanha wine* is very proper, and to be repeated two or three times more, every third or fourth day.

DURING this courſe, and afterward, medicines, proper for ſtoping the flux and healing the ulcerated membranes, are to be adminiſtered. And of this ſort I know none better than the following bolus compoſed of the *cordial confection*, and *French bole*, each one ſcruple, *Thebaic extract* one grain; given three times a day.

AND it will be of ſervice to inject clyſters, either of fat broth with the addition of *Venice treacle* or *electary of ſcordium*; or of the *white decoction* and *ſtarch*; or, in place of this laſt, of the *chalk julep*, with

with two or three grains of the *Thebaic extract*, when occaſion requires it.

LASTLY I recommend as an uſeful remark, that this courſe is ſometimes rendered ineffectual by a bad habit of body. In ſuch caſes, to the foregoing method it will be proper to add medicines, which correct the humors; and indeed ſome doſes of *rhubarb*, with a ſmall proportion of *dulcified mercury ſublimate*, commonly called *calomel*, will prove very conducive to that end.

BESIDES theſe diſeaſes, a *vomica*, or internal ſuppuration, is ſometimes formed in the ſtomach. This indeed ſeldom happens, but yet I have obſerved it more than once; when the patient vomited up a mixture of blood and purulent matter in large quantities. The caſe

caſe is terrifying indeed, but yet generally ſpeaking it is not attended with any great danger; and it is cured by medicines which heal the ulcered membranes, eſpecially by *Locatelli's balſam.*

SECTION II.

Of the iliac paſſion.

THIS diſeaſe, by the *Greeks* named ἔιλεὸν, and by *Celſus* (1) the *diſeaſe of the ſmaller gut*, is very acute. It is a violent inflammation of the inteſtine, which, unleſs ſpeedy relief be given, ſoon terminates in a gangrene, and death.

WHEREFORE blood muſt be plentifully drawn with great expedition, not once only, but twice, and generally thrice. Then the belly is to be moved. But this is

(1) *Lib.* iv. *cap.* 13.

very

very difficult to be done, becauſe acrid cathartics cauſe too great an irritation, and are thrown up by vomit. Therefore it is to be attempted by ſtimulating clyſters and gentle cathartics; which are moſt likely to give mutual aſſiſtance to each others operation. Anodynes too are neceſſary, but mixt with the purging medicines. Thus a very proper medicine will be a ſcruple of the *cathartic extract*, with one grain of the *Thebaic extract*; and ſome hours after, two ſpoonfuls of *infuſion of ſena*, with the addition of a fourth part of the *tincture of ſena*, to be taken either every hour, or every two hours, until the patient has had a ſufficient number of ſtools.

If this courſe prove ineffectual, it will be right to order *quickſilver* to be ſwallowed down; which has a two-

a twofold uſe in this caſe: to wit, by its ponderoſity that of reſtoring the natural motion of the inteſtines, which is inverted; and by its ſlipperineſs that of ſoftening and driving downward the excrements which ſtop the paſſage. Upon theſe accounts it is to be given in large quantities, to a pound weight at leaſt; and generally requires to be repeated. Nor ought the phyſician to uſe any long delay in trying this experiment, for fear of an actual mortification of the inflamed parts; whereby the coats of the inteſtine would be deſtroyed, and the quickſilver run into the cavity of the *abdomen*.

INFINE fomentations are of ſome ſervice, particularly warm flannels ſoaked in *ſpirit of wine*; or, what *Sydenham* preſcribes, a *live puppy held*

held conſtantly on the bare belly (1). But an immerſion up to the breaſt in the warm bath is far more beneficial. And if the pain is not yet diſcuſſed, it will be proper to apply cupping glaſſes, with ſlight ſcarifications, about the navel.

THE ſame method of cure is to be obſerved in that ſevere diſeaſe, by the *French* called *colica Pictonum*, and by our people in the *American* iſlands, where it is very rife, *the dry belly-ach*. For it is a pain attended with fever and inflammation, and a moſt troubleſome coſtiveneſs.

SECTION III.

Of worms.

THE belly is frequently the ſeat of worms: and they are of three

(1) See his *works*, *Lond.* 1705. *p.* 41.

ſorts, the *round ſmooth* ſort, the *aſcarides*, and the *flat* or *jointed worms*: children are chiefly troubled with the firſt and ſecond; and adults with the third and worſt ſort. Theſe have been all treated of by many medical writers. But the learned *Daniel Le Clerc* has given the moſt accurate deſcription of the flat worm illuſtrated with figures (1). And as he has refuted the erroneous opinions of ſome phyſicians concerning this creature, which ſeems to be an animal of a ſingular nature; I have borrowed from him the following remarks. Firſt it manifeſtly appears, that this is not a ſingle worm, but a chain of many leſſer worms, of that kind, which are called *cucurbitine*, linked together in a continued ſeries. Secondly theſe latter are ſometimes

(1) *Hiſtoria naturalis et medica latorum lumbricorum, Genevæ*, 1715.

found,

found, of a finger's breadth, lying ſingle and ſeparate in the inteſtines, and are ſo diſcharged by the anus. Laſtly the whole worm formed of the concatenation of theſe has but one head, which is pretty ſharp-pointed, ſomewhat reſembling a beak; which it fixes into the coats of the inteſtines, and ſticking there very faſt, ſucks the chyle for its nouriſhment.

To theſe obſervations of *Le Clerc* I add ſome few from my own practice: for I have ſeen and cured this diſeaſe more than once. And indeed it is a truth equally ſtrange and diſagreeable, that though the medicines have deſtroyed and brought away ſeveral of the ſmall worms, which are the component parts of the great one; yet others daily breed in the body, and join themſelves to the reſt, in order to

repair the breach, until the head is expelled; and then at length the whole animal is diſcharged with it by the *anus*, and is frequently ſeveral feet long. But it is not at all ſurprizing, that that ſharp beak above-mentioned ſhould cauſe pain; and that the perſon, who entertains this devouring gueſt, and is under a neceſſity of ſupplying its daily food, ſhould waſte in his fleſh, and even run into a decay.

WHEREFORE theſe pernicious broods of worms are to be deſtroyed by all poſſible means: and this is eaſily done with regard to the ſmooth round ſort, and the *aſcarides*. *Quickſilver* in every form is deſtructive of them; and therefore it will be very proper to order a purge of *rhubarb* with a ſmall proportion of *dulcified mercury ſublimate*, which is to be repeated at due

due intervals: and in the intermediate days to give *æthiops mineral* morning and evening. Moreover it will be of ſervice to drink ſpring water, in which quickſilver has been boiled; and even ſea water alone. Infine oil injected by the *anus* does good.

BUT the flat worm requires a peculiar treatment: and after many years experience I recommend the following medicine as very efficacious in this caſe.

TAKE *filings of tin*, and *red coral*, of each an equal quantity: pound them together into a very fine powder: of which one drachm, made into a bolus with *conſerve of the tops of ſea-wormwood*, is to be taken twice a day.

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INFINE the ſame medicines, which have deſtroyed and cleared the bowels of theſe inteſtine enemies, are to be repeated from time to time, to prevent their return.

THERE is another worm, which deſerves to be taken notice of in this place, as being very different from thoſe above deſcribed, both with regard to its ſeat, which is not in the inteſtines, but in the limbs, and to the oddneſs of its nature. I mean that; which the *Arabians* have named *vena medinenſis*, the *Greeks* δρακόντιον, and the *Latins dracunculus*. *Avicen* is the firſt author, who deſcribed this worm, and to his deſcription he has ſubjoined the cure(1). His *Arabic* text was rendered into *Latin* by *Georgius Hieronymus Velſchius*, and

(1) *Lib.* iv. *Canon. ſect.* iii. *tract.* ii. *cap.* 21 & 22.

illuſ-

illuſtrated with an ample comment full of various erudition (1). I ſhall give in few words the ſubſtance of what occurs in *Avicen.* He ſays that this diſeaſe makes its firſt appearance by a *pimple, which riſes on ſome of the limbs of the body, and in courſe of time ſwells into a bliſter: then it breaks, and there iſſues ſomewhat of a blackiſh red color, which continues to come forth inceſſantly: ſometimes it has a vermicular motion under the skin, as if it were a real worm.* *Galen* calls this evil an *ulcer, which has a nerve brought into it from ſome neighbouring part* (2).

But in truth, this diſeaſe, frequent in *Æthiopia, Africa* and *India*, is a real worm. And in particular it is an aquatic inſect,

(1) *Publiſhed at Augsbourg*, 1674. 4to.
(2) *Definit. medic.*

with

with a ſharp head and ſlender body, which works itſelf into ſome of the limbs, the legs eſpecially, of perſons, while they are bathing or otherwiſe remaining in water. It is then very ſmall; but by feeding on the membranes of the muſcles it grows larger in all dimenſions; till at length it gnaws the skin, and raiſes a ſwelling and inflammation, which ſuppurates; and then the creature puts forth its head, and is often found to be two or three feet long, and ſometimes longer.

THE cure propoſed by *Avicen* conſiſts both of internal medicines, and of external helps. For he adviſes the patient *to take a drachm of aloes three days ſucceſſively. But if the worm withſtands this medicine, and has actually begun to come forth; ſome thing ſhould be provided, to which it may be faſtened,*

and

and on which it is to be rolled gently and gradually, that it may all come out without breaking. The beſt thing for this purpoſe is a ſtick of lead, on which it is to be rolled; and it ought to be of a proper weight for pulling: then let it be drawn out gently, for fear of breaking, &c. I have formerly ſeen in *St. Thomas's hoſpital* one inſtance of this caſe in a ſailor lately returned from *Africa.*

T CHAP-

CHAPTER VIII.

Of the dropſy.

THERE are three ſpecies of dropſy mentioned by phyſicians both ancient and modern; the *leucophlegmatia* or *anaſarca*, the *tympany*, and the *aſcites*. An exceſs of *ſeroſities* is common to them all; which being collected form a ſwelling; either all over the body, as in the *leucophlegmatia*; or in the belly, which is ſometimes ſo bloated, that a ſound is frequently heard proceeding from the wind incloſed, as in the *tympany*; in which caſe there is alſo generally found ſome ſhare of water, made perhaps by the condenſation of the confined vapor: at other times the belly

belly is ſo filled, that the fluctuation of the water may be eaſily perceived, either upon moving the body, or patting the part with the hand, as in the *aſcites*.

THE ſeat of the *leucophlegmatia* is in that membrane, which modern anatomiſts call the *adipoſe*, or rather the *reticular* or *cellular membrane*, and which lies between all the membranes of the body and the muſcles.

THE *tympany* is of more ſorts than one. Sometimes the confined vapor bloats up the *abdomen*, which gives a hollow ſound upon being ſtruck. And that vapor is an exhalation from ſome mortified *viſcus*; and therefore when let out, it is always extremely fœtid. This is a rare caſe, and yet I have ſeen one remarkable inſtance of it in *St. Thomas's hoſpital*. It was in an old

man, whoſe belly ſwelled to that degree of tightneſs, that it ſounded like a drum upon being ſtruck; nor could a paſſage be procured downward either for excrement or wind, though the moſt powerful cathartics had been given. Upon opening the *abdomen* after death, there flew out with noiſe ſuch an exceſſively ſtinking vapor, that the ſurgeon cried out, he was poiſoned. We ſoon found the ſource of this ſtench to be the *colon*, which was inflamed and mortified, and adhered to the ſtomach mortified likewiſe. But yet it ſometimes happens without any putrefaction, that an elaſtic air engendered in the *abdomen*, and not finding any vent, puſhes forward and bloats up the integuments by its expanſive force. And this is not pent up in the cavity of the belly, but in the very inteſtines; which it ſtretches to

ſuch

ſuch a pitch, as to deſtroy their contractile power; and then their capacity is ſometimes widened to an almoſt immenſe degree (1).

THE *aſcites*, or third ſpecies of dropſy, is formed three different ways. For ſometimes the water is extravaſated between the tendons of the tranſverſal muſcles of the *abdomen* and the *peritonaeum*, and by ſeparating them forms a tumor (2); at other times the ſeroſities getting in between the two *laminæ* of the *peritonæum* (for this membrane is double) forces them aſunder, and forms to itſelf a large receptacle: but moſt commonly the water is collected and ſtagnates in the wide cavity of the *abdomen* itſelf. And upon diſſection I have

(1) See *Memoires de l' Academie Royale des Sciences*, for the year 1713. pag. 235. and *Philoſophical Tranſactions*, No. 414.

(2) See *Cheſelden's Anatomy*, *Book* iii. *chap.* 4.

ſome-

ſometimes obſerved this water to be very clear, with many little tranſparent ſtrings, compoſed of ſlender veſicles that ſeemed linked together, floating in it; which were the coats of the burſted lymphatic veſſels, whoſe valves ſeparated them into different pieces, and formed hydatids.

BUT there is no ſpecies of dropſy worſe than that of the *ovaries* in women. For theſe organs firſt grow ſcirrhous, then they are inflamed, and at length gangrened; they likewiſe ſwell to a vaſt ſize, being gradually ſtretched by the juices iſſuing out of their burſted lymphatics, which are very numerous. Hence this diſeaſe is very ſeldom cured.

THESE are the chief ways of forming collections of water in the belly, and I have ſeen inſtances of

of them all more than once: but the following caſe, which fell under my notice, while I was phyſician to the hoſpital, is very uncommon. A widow of forty two years of age, who never had a child, complained of pains in her back, and difficulty of making water, for about twelve months: after which time ſhe perceived her belly to ſwell, and there ſoon appeared manifeſt ſigns of an *aſcites:* wherefore ſhe was tapped three different times; but the waters ſoon collected again after each tapping, and ſhe died in a fortnight or three weeks after the laſt puncture. Upon opening the body, there iſſued firſt from a cavity, formed by the ſeparation of the tendons of the tranſverſal muſcles from the *peritonæum*, a great quantity of water, in which floated many large entire hydatids. And afterward, upon cutting the *peritonæum*,

tonæum, ſeven or eight pints of a thickiſh and viſcid humor were taken out, mixed with many corrupted glands. We wondered that none of the inteſtines appeared, which we ſought in vain, until, cutting through a membrane as thick as leather, we at length found the ſtomach with all the inteſtines and *omentum* collected into a narrow compaſs, and as it were lying hid there. The membrane immediately incloſing them was the inner *lamina* of the *peritonæum*; whoſe outer part being, as I have already obſerved, almoſt as thick as leather, did ſo far impoſe on us at firſt ſight, that we took it for the whole *peritonæum*. Thus the three ſpecies of *aſcites* above-mentioned viſibly occurred together in this body, a curious, appoſite and uſeful caſe.

BESIDES all theſe collections of water, other parts of the body are alſo liable to the ſame diſtemper, as for example the brain and teſticles. But water is no where attended with greater danger than when collected in the breaſt: and this ſpecies of dropſy moſt commonly happens to thoſe, who have long laboured under a difficulty of breathing, that ſort eſpecially which ariſes from *polypi* in the blood-veſſels; while the ſeroſities of the blood tranſude through the membrane of the lungs. I have ſeen ſeveral caſes of this kind, where there was from a pint to a quart of water collected, ſometimes in one ſide of the breaſt only, ſometimes in both, and ſometimes alſo in the very *mediaſtinum*. Now as this water encreaſes daily in quantity, by hindering the play of the lungs it at length ſtops reſpiration, and the patient dies ſud-

denly. Infine, in perſons who had been long ſubject to a palpitation of the heart, and ſhortneſs of breath, the *pericardium* itſelf has been found after death vaſtly diſtended with water.

BUT it is time to come to the cure of theſe dropſies. In the *leucophlegmatia* an inciſion ought to be made in the inſide of the leg, two fingers breadth above the ankle, as far in as the cellular membrane, and no farther; in order to ſerve as a drain for the water, which ſhould run for ſome days. And during this time let the leg be fomented with a decoction of emollient and warm herbs, with an addition of *camphorated ſpirit of wine*; which method I have often found to be of great ſervice not only in this ſpecies of dropſy, but even in the *aſcites* itſelf: nay in ſome caſes

it

it has proved an abſolute cure, by draining off an almoſt incredible quantity of water for many days together. But care muſt be taken, not only in this particular inciſion, but in all others that are made in any part of the body for drawing off the waters, not to over-exhauſt the patient's ſtrength; which is as much affected by this evacuation, as if the ſame quantity of blood were drawn. Wherefore the patient is to be ſupported by all poſſible means, leſt what was intended for his cure may haſten his death: whereof I have ſeen two inſtances, one of which indeed happened by my own fault in not eſtimating the patient's ſtrength with ſufficient caution, and the other by the raſhneſs of a ſurgeon. And yet it is aſtoniſhing, how great a quantity of water, drawn off in this manner, hydropics ſometimes bear to loſe,

with eaſe and benefit: as will appear by this ſingular caſe.

A Gentlewoman, related to me, of near fifty years of age, and of a good ſtrong habit of body, was ſeized with an anaſarcal and aſcitical dropſy at the ſame time; whereby her belly ſwelled to ſuch an exceſſive degree, that when ſhe lay in bed ſhe was quite oppreſſed by the weight. When her caſe was judged almoſt deſperate, I gave it as my opinion, that the only hopes, or rather chance remaining for her life, conſiſted in letting out the water by inciſions made in the ſmall of the leg. To this ſhe obſtinately refuſed to ſubmit, ſaying that ſhe was now gone a great way on her journey out of this miſerable life, and did not chooſe to go back. But at length ſhe was prevailed on by the importunities of her friends; and

and a ſmall inciſion was made in each leg, in the manner above deſcribed: through which iſſued a gallon of water at leaſt every day for ten days together. In the mean time regard was had to her ſtomach and ſtrength. Warm fomentations were applied to the part; and ſhe took twice a day a draught of infuſion of bitter herbs in water, ſuch as leaves of *Roman wormwood*, *leſſer centaury*, *gentian root*, and *leſſer cardamom ſeeds*, with an addition of *chalybeate wine*. And every night ſhe drank the following draught, which I have frequently ordered in hydropic caſes, and found it very efficacious in promoting urine.

Take of *oxymel of ſquils* one drachm and half; *ſimple cinnamon water* an ounce; *compound ſpirit of lavender*,

der, ſyrup of orange peel, each one drachm, mix.

She mended daily, and in time perfectly recovered her former ſtate of health. But ſhe was purged with proper cathartics, as ſoon as her ſtrength would bear them. And indeed this diſeaſe requires pretty powerful cathartics, and a frequent repetition of them; the chief of which are *elaterium*, *calomel* and *jalap*. Wherefore theſe were given at proper intervals: and the other medicines abovementioned were continued daily for a long time; eſpecially the diuretic draught, which ſhe never omitted for a whole year. After this courſe ſhe continued in good health for five years, at the end of which ſhe was ſeized with an acute diſeaſe, that carried her off. Upon the whole I make no doubt, but that

that that deluge of waters flowed partly from the cellular membrane, partly from the ſack formed by the tendons of the abdominal muſcles and the *peritonæum*, or by the diſtenſion of the two *laminæ* of the *peritonæum*.

ORDER brings me now to the *tympany*. And firſt, that ſpecies, which, as I ſaid above, proceeds from a mortification of any of the bowels, is abſolutely incurable: but that which is occaſioned by air engendered and pent up in the very inteſtines, is to be treated with moderate cathartics frequently adminiſtered, and carminatives, to expel the wind, interpoſed; together with diet of very eaſy digeſtion. Likewiſe bodily exerciſe ought not to be neglected; and it will be of uſe to throw up large clyſters of warm water; and alſo, what *Celſus* adviſes,

adviſes, to make ulcers in ſeveral parts of the belly with a red-hot iron, and keep them running a good while (1). But if this operation ſhould appear cruel, it will be proper to lay bliſters on the *abdomen*, and repeat them now and then.

THE *aſcites* is always a dreadful diſeaſe, whether its ſeat be on the outſide of the *peritonæum*, or within it, or infine in the cavity of the belly. Now it is extremely material in this caſe to conſider, what evacuations the patient is capable of bearing. For when he is weak, violent purging is very prejudicial; and the more the ſeroſites are drained out of the inteſtines, the greater quantity of them flows into the belly. As ſoon as the phyſician obſerves this to happen, he ought to deſiſt, and try to carry off the

(1) *Lib.* iii. *cap.* 21.

redun-

redundant water by the urinary paſſages. But all diuretics, even ſuch as are accounted the moſt powerful, are of uncertain effect in theſe caſes: for thoſe which anſwer in one patient, fail in another; wherefore various ſorts are to be tried. Yet generally ſpeaking, thoſe, into which *ſquils* enter, are the moſt efficacious. Of theſe the chief are, either the draught with *oxymel* above deſcribed, or the freſh root itſelf given in a ſmall quantity, as in the following bolus:

TAKE of the *freſh root of ſquils* five or ſix grains; of *compound powder of arum* half a ſcruple; *ginger root* five grains. Pound them together, and with *ſyrup of orange peel* make a *bolus*, to be taken every morning.

Or infine *vinegar of ſquils*, which will be leſs diſagreeable to the ſtomach, and better adapted to the intention, if it be given in this manner:

TAKE of *lemon juice* ſix drachms; of *ſalt of wormwood* half a drachm: mix, and add of *ſimple cinnamon water* an ounce and half; *ſyrup of orange peel* one drachm; *ſpirituous water of pepper-mint* half an ounce; *vinegar of ſquils* a drachm, or a drachm and half: make a draught, to be taken twice a day.

An infuſion of *broom aſhes* is alſo beneficially ordered by phyſicians upon account of its diuretic quality; and if it be mixed with a little wine, it will often make a good common drink for the patient.

UPON

UPON this occaſion I cannot omit recording a very remarkable caſe of a lady of quality of my acquaintance. This lady, when about fifty years of age, had a hard ſwelling in one ſide of the *abdomen*, which without doubt was one of the ovaries grown to a very large ſize; and its lymphatics burſting ſpewed out their contents, and gradually formed an *aſcites*. Purgatives and diuretics of all ſorts were tried in vain. She was tapped three times, and ſoon filled up again. It happened at length, that a poor country woman came to ſee her, who obſerving her in great pain from the tenſion of her belly, eaſily perſwaded her to take, every day, night and morning, a ſpoonful of whole *muſtard ſeed*, and drink on it half a pint of a decoction of *green broom tops*. After three days taking this bitter potion in this

manner, ſhe found herſelf vaſtly relieved; and her thirſt, which was very troubleſome, was entirely appeaſed. This medicine ſometimes gave her ſtools for two or three days ſucceſſively, and ſhe made five or ſix pints of water at leaſt every day. She continued this courſe for twelve months, and was cured without any return of the diſeaſe. Wherefore *Hippocrates* wiſely adviſes phyſicians, *to enquire even of the lower claſs of people, if they know any thing uſeful for the cure of diſeaſes* (1).

It will perhaps ſeem an uncommon, and even dangerous practice, to order narcotics in this diſeaſe. But yet they are ſometimes ſo uſeful, that they may be placed among diuretics. For in caſe of great pain,

(1) Μὴ ὀκνέειν παρὰ ἰδιωτέων ἱστορέειν, ἤν τι δοκέει ξυμφέρον. *Lib. Præcept.*

they

they often promote a diſcharge of urine; which effect they produce, in my opinion, purely by relaxing the fibres of the renal ducts, which are always conſtringed by pain: as will appear by the following remarkable caſe.

A certain robuſt, ſober, temperate man, of about forty years of age, was afflicted with an *aſcites* and *tympany* together. The diſeaſe was owing to a violent blow, which he had received about ſix weeks before, in the right *hypochndrium*. The ſwelling of his belly daily encreaſed, with very ſevere pain, great thirſt, and thick high-coloured urine rendered in ſmall quantity. The moſt powerful diuretics, as *Venice ſoap*, *lixivial ſalts*, *balſam of Gilead*, *nitre*, and the like, were preſcribed by another phyſician of great experience and myſelf;

ſelf; but all in vain: and ſtrong cathartics made the diſeaſe grow worſe. He was ordered to be tapped, but his friends would not conſent. Wherefore as his pain was now become intolerable, and there were no hopes of his life, I thought of anodynes, in order to procure him ſome eaſe at leaſt in his laſt moments. And accordingly I ordered him the following night draught:

TAKE of *pepper-mint water* one ounce; *ſimple cinnamon water* half an ounce; *ſpirituous cinnamon water* two drachms; *Thebaic tincture* forty drops; *ley of tartar* half a drachm; *ſyrup of marſh-mallows* one drachm; mix.

THIS procured him moſt unexpected eaſe, and ſome ſleep, to which

which he had been long a ſtranger; and he made that night, at different times, a quart of water at leaſt. This ſudden change ſurprizingly raiſed his ſpirits. And as the patient found, that, while his eaſe from pain laſted, he had conſiderable diſcharges both by urine and ſtool; but that he filled up again, when the effect of the anodyne was over; the ſame draught was ordered to be repeated every eight hours, and in a little time it was thought ſufficient to give it but twice a day. But whereas his appetite was diminiſhed by the conſtant uſe of this medicine, he took, once or twice a day, ſome ſpoonfuls of a chalybeate bitter infuſion; without neglecting the paregoric draught, whenever the pain returned. And this courſe was attended with ſuch ſucceſs, that to compleat the cure he was ordered pils, compoſed of

ſtorax

ſtorax pils one part, *Peruvian bark* two parts, made up with *Chio turpentine*, to be taken twice a day; whereby he perfectly recovered.

Dr. *Willis* (1) has given a caſe, quite ſimilar to this, to which I refer the reader; as alſo to what the learned *Spon* has publiſhed on the ſame ſubject (2). For the dropſy, to the cure of which by twenty bleedings he was an eye witneſs, as well as that above deſcribed, may juſtly be ſuſpected to be owing to the præternatural heat and inflammation of the abdominal *viſcera*.

HAVING hitherto treated of things proper to be taken in this diſeaſe, it may not be amiſs to ſay a word or two on a very different method of cure, which is, by ab-

(1) See *Pharmaceut. rational. Part.* i. *ſect.* vii. *cap.* 1.

(2) *Aphor. nov. ſect.* v. *aphor.* 81.

ſtain-

ſtaining from all kinds of drink for a long time: for even this method has had its abettors among the faculty. But certainly it is very difficult to be ſtrictly purſued, as the patient is generally ſubject to exceſſive thirſt; which if he be debarred from quenching, he ſuffers ſuch uneaſineſs, that poſſibly he may not think life worth purchaſing at ſo dear a rate. Nevertheleſs I have known two perſons laboring under a very ſevere aſcitical dropſy, who had reſolution and patience enough ſtrictly to practice this ſelf-denying method, and were both perfectly cured. And their way of aſſwaging their thirſt was, by waſhing their mouth and throat with the juice of four apples or lemons, and now and then ſwallowing a very ſmall quantity of it.

BUT if the belly cannot be drained of its load of water, either by inciſions made in the legs, as propoſed in the *anaſarca*, or by any of the other helps abovementioned; there will be a neceſſity of taking a ſhorter courſe of relieving the patient, I mean by tapping. For this operation ſometimes preſerves, but ſeldom kills: and always conſiderably eaſes the pain occaſioned by the tenſion of the abdomen; beſides which it has this great uſe, that it affords time and opportunity for adminiſtering proper medicines.

I know that phyſicians are often averſe to this operation, grounded chiefly on the following reaſon. 'Tis in vain, ſay they, to let out the water, ſince the injured internal parts furniſh a new ſupply of it: moreover if it be let out by parts at diffe-

different times, the belly ſoon fills up again; but if it be drawn off all at once, the patient dies immediately. Now, moſt certain it is, that, when the bowels are mortified, the caſe is paſt all hopes; that letting out the water by parts is of no ſervice, and drawing it all off at once was commonly pernicious. Wherefore in the year MDCCV, I began to inveſtigate the cauſe of ſo great an evil, in order to guard againſt it; and, if I am not miſtaken, it is as follows. By the long diſtenſion of the *abdomen* from the incloſed water the diaphragm is thruſt up too high; the muſcles of the belly are ſtretched, the blood flows with greater freedom through the upper blood-veſſels, than through the lower; and infine the water by its preſſure occaſions ſome new diſpoſition of the adjacent parts: whence upon letting out all

the water at once, the diaphragm immediately moves lower down, as in its natural ſtate it uſually does; the blood ruſhes with unuſual impetuoſity into the lower or deſcending veſſels, and by the removal of the preſſure the fibres ſuddenly loſe the extenſion, which they had acquired, and the heat, which the incloſed water had given them: hence ariſes a ſwooning; which returning often, and with encreaſed violence, throws the patient into cold ſweats, and ſoon carries him off. Now the beſt way of preventing this fatal conſequence ſeemed to be, to preſs the belly hard with both hands, from the upper part downward, while the water was iſſuing; and after it was all come away, to ſwathe the belly tight with a bandage.

I reſolved to make the firſt trial of this method in the hoſpital; and ſoon found a hydropic woman, who was a proper ſubject for my purpoſe. Wherefore ſhe was tapped, and as ſoon as the water began to iſſue from the puncture, I carefully laid my hands above the navel, one on each ſide, and preſſed the belly downward; and made the ſurgeon do the ſame thing below that part. But this I obſerved, that if I took off my hands but for a ſingle moment, the patient immediately fainted away. When all the water was drawn off, a piece of flannel dipped in ſpirit of wine was laid on the *abdomen*, and then a bandage was rolled tight all over it. To our great joy, the experiment ſucceeded according to our wiſhes. The patient made water plentifully, her appetite returned, ſhe ſoon gained ſtrength, and was perfectly

cured

cured without a relapſe. Of ſuch conſequence it is, to have inveſtigated the true cauſes of things.

FROM that time, not only our own, but alſo foreign phyſicians have followed this method; and ſometimes indeed, as it frequently happens in new experiments, with too much boldneſs. For in caſes of diſeaſed livers, abſceſſes of the ſtomach, and bad habits of body, there is little or no reaſon to hope, that it will be attended with ſucceſs. Wherefore ſome precautions are always neceſſary to be uſed before attempting it; the moſt material of which are laid down by thoſe ingenious ſurgeons, Mr. *Cheſelden* (1) and Mr. *Sharp* (2).

(1) *Anatomy of the human body, Book* iii. *chap.* 10.

(2) *A treatiſe on the operations of ſurgery, chap.* 13.

AFTER

AFTER all I muſt confeſs, that, with what prudence ſoever the phyſician diſcharges his duty, the dropſy often returns. But that notwithſtanding, a high value ought to be ſet on this diſcovery, by means whereof I have known many lives not only prolonged for ſeveral years, but made tolerably eaſy, and ſometimes comfortable. Of which truth I could produce many examples, but ſhall content myſelf with the following one.

A widow lady, whoſe opulent eſtate ſerved to render her virtues more conſpicuous, fell into an *aſcites*, in the fifty-firſt year of her age. For this ſhe was tapped; but as ſhe ſoon filled up again, the operation was repeated once a month for the firſt year; and at each tapping, one with another, there were drawn off forty four pints

pints of water. The next year ſhe was likewiſe tapped every month, and the whole quantity being equally divided made twelve pints each week. The third year the quantity of water began to diminiſh, ſo that there was but twenty-four pints for every month. And in the fourth and fifth years, and ſeven months of the ſixth, in which time ſhe underwent thirty tappings, each tapping amounted only to ſixteen pints. After the laſt time ſhe began to grow weak and waſte away; and ſhe was ſeized with almoſt a conſtant difficulty of breathing, as we obſerve in a dropſy of the breaſt, attended with frequent faintings; whereas before, through the whole courſe of the diſeaſe, in the intervals of tapping, ſhe was chearful in converſation, uſed exerciſe, and even diverted herſelf with dancing. But now life began to ſit heavy

heavy upon her, and ſhe died at length a very eaſy death. Now it is very ſurprizing that a human body, in that ſpace of time, could furniſh ſuch a vaſt quantity of water, to wit, one thouſand nine hundred and twenty pints; and it is my opinion that this water was firſt collected in the ovaries. Infine this good lady, for the information of poſterity, ordered by her will, that the following engliſh inſcription ſhould be engraved on her monument.

Here lies Dame MARY PAGE,
Relict of Sir GREGORY PAGE *Baronet.*
She departed this life March IV. MDCCXXVIII,
In the LVI *year of her age.*
In LXVII *months ſhe was tapped* LXVI *times,*
Had taken away CCXL *gallons of water,*
Without ever repining at her caſe,
Or ever fearing the operation.

AND this monument is now to be ſeen in *Bunhil Fields.*

EQUALLY remarkable, but happier in the event, is the caſe contained in the following account. A maiden gentlewoman of ſeventeen years of age obſerved, that her belly ſwelled gradually, and that ſhe made but little urine. She took various medicines, but ſtill grew worſe for a whole year; when her *abdomen* was as much diſtended as if ſhe had been far gone with child. At this juncture ſhe married, in hopes that a husband would prove her beſt phyſician. But it happened quite otherwiſe; the dropſy went on encreaſing for three years, when it came to that highth, that there was reaſon to fear her belly would burſt. Her pain becoming now intolerable, ſhe deſired me to order her to be tapped by a ſurgeon

ſurgeon of the hoſpital, who was ſaid to have good ſucceſs in that operation; in order to give her ſome eaſe at leaſt. Whereupon, as I did not care to be thought to kill a patient, whom I could not cure, I told her, that it could not be done in ſo emaciated a body, without extreme danger. However the miſerable patient ſtill continuing to urge me with earneſt intreaties, not to abandon her to conſtant tortures and a lingering death; I granted her requeſt: and at one tapping, managed in the manner above deſcribed, there were drawn off ſixty pints of clear water, quite free from any offenſive ſmell. From that time ſhe gathered ſtrength daily, the diſeaſe never returned, and at the end of ten months ſhe was delivered of a luſty boy, and has ſince had ſeveral children.

INFINE a ſtrong argument for the neceſſity of this operation is, that it is much ſafer, under proper reſtrictions, to let out the water; than to wait till it burſts the belly, and comes forth. For this caſe ſometimes happens, and is always attended with the utmoſt danger. However I have ſeen one inſtance of a recovery from it, in a woman, to whom I was called. Her belly was ſo vaſtly ſtretched with water, that I pronounced the caſe incurable; becauſe ſhe ſeemed not to have ſtrength enough to bear the proper evacuations. But I was miſtaken. For in a few days, hearing that ſhe was ſtill alive, I made her another viſit; and was much ſurprized on ſeeing two veſſels full of water, one containing twelve pints nearly, and the other ſix. The firſt quantity came away in one day through a crack in the *abdomen*

domen near the navel; and the ſecond iſſued the next day from another crack, which happened near the ſame place: thus nature wiſely divided her remedy, and allowed it two days to operate. As I now found the patient exceſſively weak and faint, I ordered her nothing inwardly but cordials; but gave directions to foment the *abdomen* with ſpirit of wine; and withall made my prognoſtic that ſhe would ſoon die. But, *mulieri, ne mortuæ quidem, vix credendum eſt*, I was miſtaken a ſecond time: for I ſaw her ſome months afterward, quite recovered; nor did ſhe ever relapſe, as far as I could learn: and the cracks or burſtings of her belly united, without any other application, but that above-mentioned.

I CLOSE

I CLOSE this long chapter with the hiſtory of a caſe, whereby it will appear, that nature ſometimes employs a very different method from that above deſcribed, to eaſe herſelf of her load. I attended a certain merchant for an aſcitical dropſy, with another phyſician of great experience: and after trying the uſual remedies to no purpoſe, we reſolved upon the *paracenteſis*, as the ultimate reſource. Accordingly the operation was performed, and about twenty pints of thin clear water were drawn off. In a few weeks his belly filled again. Whereupon we agreed to meet the ſurgeon the next morning, in order to draw off the water by a ſecond tapping. As ſoon as we came to the patient, he looked at us, and ſmiled; ſaying that he had no occaſion for any ſort of aſſiſtance; and ſtripping off the cloaths, he

ſhewed

ſhewed his *abdomen*, which was ſoft and relaxed. At this we were vaſtly ſurprized, and having asked him if he had had any kind of evacuation in the night, he aſſured us that he had had none, either by ſtool, urine, or ſweat, more than uſual. Wherefore all the water muſt have been abſorbed by the glands and capillaries of the *peritonæum* and adjacent membranes. But afterward this patient very imprudently committed himſelf to the care of a certain quack, who, to prevent a return of the diſeaſe, gave him very ſtrong cathartics, which ſo exhauſted him that he ſoon died conſumptive. Yet upon diſſection there was little or no water found in the *abdomen*.

ANATOMISTS have long ſince diſcovered, that water is abſorbed from the belly into the circumjacent parts.

parts. For if a pint of warm water be injected, through a ſmall wound, into the *abdomen* of a live dog; and his *abdomen* be laid open a few hours afterward; not a ſingle drop of the water will be found therein. Thus, as *Hippocrates* has juſtly obſerved, *every part of the body, both outward, and inward, is perſpirable* (1). But I refer the reader to the peruſal of what the learned Dr. *Abraham Kaav* has publiſhed on this ſubject: who demonſtrates that the humors are admitted into, and tranſude thro' all the membranes of the body, both in health and ſickneſs (2).

(1) Ἔκπνοον καὶ ἔισπνοόν ἐϛιν ὅλον τὸ ζῶμα. *Epidem.* vi.

(2) In a book intitled: *Perſpiratio dicta Hippocrati per univerſum corpus anatomicè illuſtrata.* Leyden, 1738.

CHAP.

CHAPTER IX.

Of the diſeaſes of the liver.

THE liver is liable to very many diſeaſes; becauſe the affections of this organ are for the moſt part owing to the bile, which may be vitiated ſeveral ways. But the moſt common of all is the jaundice; and as what authors have written on this diſtemper has not given me thorough ſatisfaction, I think proper to enquire with ſome care into its nature.

SECTION I.

The jaundice.

The bile is a kind of natural *ſapo*, that is, a mixture of oil, water, and

ſalt, both volatile and fixt, ſeparated from the blood in the liver for various uſes of the animal body. And as the blood itſelf may be vitiated many ways; it is no wonder, that this humor is ſometimes rendered unfit for its offices. Now it is often faulty by its *lentor* or viſcidity, and ſometimes alſo by its exceſſive thinneſs. In the firſt caſe, the ſecretory glands of the bile are obſtructed, and the ſmall quantity of it that is ſecreted ſtagnates in the hepatic ducts; whence the liver grows hard, and under its tunicle are formed whitiſh concretions, reſembling hard ſoap. But this diſeaſe ariſes, not only from the viſcidity of the bile, whereby it ſtops in its paſſage, but alſo from its want of due conſiſtence. For here the volatile ſalt, which is one of the compounding principles of the bile, over-abounds; whence the bile becomes

comes too thin, hot, and irritating to the inteſtines. In the former caſe, the body is too coſtive, and the *fæces* are hard and of a clay colour; in the latter a *diarrhœa*, attended with a fever and thin yellow ſtools, conſtantly teizes the patient. Perſons who ſpend their lives in a ſedentary manner, without proper exerciſe, are moſt liable to the former; becauſe the oily part of the bile grows too thick and viſcid for want of a due proportion of ſalt: and thoſe who render their faculties uſeleſs, by too high feeding and drinking ſpirituous liquors, are generally moſt expoſed to the latter.

But there is another ſpecies of jaundice, owing to a very different cauſe from thoſe above deſcribed, and that is, to nervous ſpaſms; when the ſubtile elaſtic fluid of the nerves,

by becoming too acrid and irritating, conſtringes the bile ducts to a degree of hindering its paſſage thro' the liver: and conſequently it muſt remain in the blood, and thence be thrown on the different parts of the body. That ſomething of this ſame kind follows upon violent colic pains, and the bite of the viper, we have ſhewn in another place (1).

I MUST alſo obſerve, that there ſometimes happens another ſort of conſtriction, occaſioned by the ſcirrhoſity of the abdominal glands; in which caſe, though the liver and gall-bladder be loaded with bile, yet no part of it can paſs into the inteſtines: of which I formerly ſaw a remarkable inſtance in the hoſpital. It was in a working man

(1) *Mechanical account of poiſons, Eſſay* I. *edit.* iv.

of

of forty-two years of age, who, five months after recovering from an acute fever, was ſeized with an inflammation in the right *hypochondrium*: of which when he was relieved, he fell into an obſtinate jaundice, with coſtiveneſs and clayey ſtools, and died in a ſhort time. Upon opening the *abdomen*, we found four pounds of pure blood, in appearance at leaſt, floating in it. We wondered whence this blood proceeded, but ſoon obſerved ſome little membranes, which ſeemed to be the pieces of a burſted ſack; and the *omentum* was mortified in this place. The *pancreas* was not only ſcirrhous, but alſo cancerous: for upon cutting into it, there flew out into the ſurgeon's face ſome drops of ſeroſity of ſo acrid and corroſive a nature, that they burnt the skin like oil of vitriol. The ſpleen was ſcirrhous likewiſe. The gall-

gall-bladder was very large, and full of bile; not yellow, but of a dark green, and too viſcid. There was no ſcirrhoſity in the liver; but in what part ſoever it was cut, the ſame ſort of bile iſſued. Infine we obſerved, that every part of the body, membranes, fat, glands, nay the very ſubſtance of the ribs, was of a yellow hue, except the muſcular fibres alone; which were not in the leaſt tinged. Upon preſſing the gall-bladder with the fingers, we could not force one drop of bile into the inteſtines: for at the union of the hepatic duct with the cyſtic the paſſage was ſo vaſtly ſtreightened, that it would not admit a ſtyle. And my reaſon for relating this caſe is, to make appear, from how many different cauſes, and ſome of theſe fatal, this diſeaſe may ariſe.

A DISEASE attended with ſuch a variety of circumſtances, requires different methods of cure. In caſe of coſtiveneſs with aſh-coloured or whitiſh ſtools, *ſaponaceous* medicines, both alone, and joined with *rhubarb*, are neceſſary. When the belly is too looſe, the looſeneſs is rather to be moderated than ſtopped; which is beſt done by *rhubarb* with the admixture of an anodyne. But paregorics are never more proper in this diſeaſe, than in thoſe caſes, which we have ſaid to be owing to a conſtriction of the biliary ducts by nervous ſpaſms. But in every kind of jaundice, attended with actual inflammation, blood is to be drawn; and generally ſpeaking a vomit is to be given.

THIS inflammation frequently ſuppurates, and turns to a *vomica*; from which if pure white matter iſſues,

iſſues, it is a promiſing ſign, becauſe the evil lies in the tunicle or outward membrane. But if the whole ſubſtance of the liver is conſumed by it, the patient labors under a ſlow fever and great anxiety for a good while, and then dies. This cruel diſeaſe is very frequent in the *Eaſt-Indies*, as I have been aſſured by travellers; and is ſometimes cured by applying a cauſtic to the part, and letting out the humor. But the ulcer muſt be kept open a conſiderable time, as in the caſe of iſſues. This diſeaſe is taken notice of by the learned *Bontius*, who gives a method of cure, not much unlike that above deſcribed (1). And *Celſus* obſerves, that the ſame method was formerly practiſed by ſome phyſicians (2).

(1) See *Hiſt. nat. et medic. Ind. orient. Lib.* ii. *cap.* 8.

(2.) *Lib.* iv. *cap.* 8.

LASTLY,

LASTLY, for correcting the bile itſelf nothing is more uſeful than the following draught.

Take of *lemon juice* ſix drachms; of *ſalt of wormwood* half a drachm; of *ſimple cinnamon water* one ounce; of *double-refined ſugar* one ſcruple: mix.

And it will be of ſervice likewiſe, in caſe of a looſeneſs, if its irritating quality be duly checked by opiates. Upon the ſame principle *Mynſicht's elixir of vitriol*, taken in *Bath* or *Spa water*, is a very good medicine.

SECTION II.

The diabetes.

The *diabetes* is an exceſſive diſcharge of urine, of the taſte, ſmell, and color of honey; and that it

is not a diſeaſe of the kidneys, as has been generally thought, but of the liver, I think I have proved elſewhere beyond contradiction (1). I ſhall here avoid a repetition of what I then ſaid on that head; and ſhall only add one medicine more, viz. *aluminated whey*, which is made thus.

Take four pints of *milk*, boil it a little, and turn it with three drachms of *alum*.

If four ounces of this be taken three times a day at leaſt, it will contribute much towards ſtopping that flux.

Now if it be asked, whence can ſo great a quantity of water be ſupplied, as is diſcharged in this diſtemper; my anſwer is, that we

(1) *Mechanical account of poiſons, Eſſay* I. *edit.* iv.

find

find by eaſy experiments, that certain bodies ſometimes attract and imbibe the watery particles floating in the air; whereby they are more or leſs encreaſed in bulk and weight. Thus the *ſalt of tartar*, expoſed to moiſt air, encreaſes ſo prodigiouſly, that a ſingle pound of it duly calcined ſwells to ten pounds weight. Therefore why may we not ſay, that ſome of the vapors of the ambient air enter into the human body, when properly diſpoſed to receive them; and theſe, being added to the ſeroſities, which are to be conveyed to the kidneys, and there ſecreted, encreaſe their quantity? Upon which account, as cold and moiſt air is very improper for perſons in this diſtemper; ſo they ought, if practicable, to go into a warm and dry climate.

IN FINE, in order to account for the infrequency of this diſeaſe among the ancients, which was ſuch, that *Galen* ſays he ſaw it but twice only (1); I am of opinion, that this proceeded from their manner of living, ſo very different from ours. For I have ſaid that this diſeaſe moſt frequently happens to thoſe, who without due exerciſe indulge themſelves in drinking vinous liquors; and then quench their thirſt ariſing from theſe, by too great a quantity of ſuch as are cooling. Whereas the ancients, though perhaps too much addicted to wine, were yet more prudent in this particular; for after a debauch they returned to temperance by degrees, cooling their bodies gradually, and quenching their thirſt with warm drinks, or ſuch at leaſt as were not actually cold.

(1) *De locis affectis, Lib.* vi.

CHAP-

CHAPTER X.

Of the diſeaſes of the kidneys and bladder.

BEFORE I proceed to the cure of the diſeaſes of the kidneys and bladder, it will be proper to premiſe a few things concerning theſe diſeaſes; the nature of which does not ſeem to have been explained by medical writers with ſufficient perſpicuity; though the knowledge of this point is very material for the cure.

I WELL remember, and have mentioned it upon another occaſion (1), that the diſſection of a boy about five years old, who died of ſevere

(1) *Influence of the ſun and moon, page* 61.

nephritic

nephritic pains, at which I aſſiſted many years ſince, afforded me an opportunity of obſerving the various degrees, by which the human *calculus* had acquired the hardneſs of ſtone. For the kidneys and ureters were quite ſtuffed with a calculous matter; and it was very inſtructive to ſee the different degrees of concretion in the ſeveral parts of it, from a clear limpid water to a milky liquor, which ſhot into ſlender branchy cryſtals; and theſe coaleſcing became a hard friable ſubſtance.

HELMONT, well verſed in chemical experiments, ſays (1), (and I think not without reaſon) that the matter of the *calculus* is a certain tartar formed in the kidneys by a præternatural coagulation. For

(1) See *Supplementorum paradoxum numero criticum.*

this

this opinion ſeems to be confirmed by the analyſis of the ſtone made by fire, and compared with that of tartar from *Rheniſh* wine. This experiment was made by the ingenious Doctor *Stephen Hales* (1), who found in tartar of *Rheniſh* wine, that the third part of the whole maſs is an elaſtic air; and that above half the *calculus* conſiſted of the ſame ſort of air: which proportion of air he could never find in any other bodies.

THEREFORE may we not conjecture with probability, that the proximate cauſe of this diſeaſe is tartarous ſalts conveyed out of the blood into the ſmall ducts of the kidneys? For it is the nature of theſe ſalts, to contain and impriſon a conſiderable quantity of that

(1) *Statical eſſays, vol* 1. *p.* 184 and 193.

ſubtile

ſubtile matter, which the illuſtrious *Newton* has ſhewn, beſides its other properties, to be the cauſe of the coheſion of bodies (1). Thus the *calculus* is a ſubſtance compoſed of earth, and a very large ſhare of air, concreted in the renal ducts; and either remains therein, or drops down into the urinary bladder. Upon the whole, I have been the more particular on this head, in order to ſhew the ſeveral ways of treating this diſtemper.

AND firſt, to prevent thoſe ſalts from ſhooting into cryſtals, *lixivial ſalts* ſeem to be extremely proper. Next, to keep the cryſtals from coaleſcing into a calculous ſubſtance, oily medicines are very efficacious. And this rule ought

(1) See *The life of Mr. Boyle, prefixed to his works*, page 70.

always

always to take place with regard to diet as well as medicines.

BUT when calculous concretions are actually formed in the kidneys, and are to be brought away by the ureters, the caſe requires very prudent management. It is a very common error in practice to give ſtrong forcing diuretics, with an imaginary view of driving out the gravel with the urine: whereas this intention is anſwered with greater ſafety, in moſt caſes, by relaxing and lubricating medicines; eſpecially if, in caſe of violent pain, bleeding be premiſed, and anodynes interſperſed. For a ſtone is never forced out, while the patient is in great torture; though, when the pain ceaſes, it ſometimes comes away unexpectedly, and almoſt of its own accord, with the urine. And the reaſon of this is, that pain con-

ſtringes the fibres of the parts; which reſume their natural ſtate, and perform their functions properly, when the troubleſome ſenſation is over. Wherefore three or four grains of *opium*, diſſolved in five or ſix ounces of the *common decoction*, may be given by way of clyſter; which will greatly relieve the pain, and ſometimes procure greater advantages. However, there are conjunctures, after the pain is abated, when powerful diuretics may be adminiſtered; but with this precaution, that as ſoon as they have had their effect, they are no longer to be continued.

ALL this time the body ſhould be conſtantly kept open: wherefore in caſe of coſtiveneſs it will be expedient to give a *turpentine clyſter*; and ſometimes to purge gently with *infuſion of ſena* and *manna*: but

but ſtrong cathartics are to be avoided.

OF the lubricating medicines above-mentioned the chief are, *oil of ſweet almonds*, *ſyrup of marſh mallows*, *emulſions made with almonds*, and the like; to which may be added the uſe of the warm bath. But among the powerful diuretics *turpentine* and *ſoap* are the beſt.

SUCH is the courſe to be purſued in the paroxyſm of the diſeaſe. But out of it the patient ſhould uſe bodily exerciſe, eſpecially riding every day, but ſo as not to fatigue: his food ſhould be mild and of eaſy digeſtion; and his drink either ſmall wine and water, or new ſoft ale; which will be rendered better and wholſomer, if *ground ivy leaves* be infuſed in it, while it is working. Mead is likewiſe a proper drink; for honey is an excellent

diuretic. A ſpoonful alſo of honey in a glaſs or two of the infuſion of *marſh mallows roots* is an admirable cleanſer of the kidneys, if uſed for a conſtancy. The wines ought to be the ſofteſt and ſmootheſt that can be had; and the lighteſt, cleareſt river or running water is preferable to all other. For, as *Pliny* ſays, *thoſe ſprings are particularly condemned, the waters of which line the veſſels, in which they are boiled, with thick cruſts* (1).

But particular care ſhould be taken, not to put the patient into a courſe of powerful diuretics, with a view of preventing the gravel from concreting in the kidneys: becauſe, whatever great things may be ſaid of this ſort of medicines by ignorant pretenders, they

(1) *Nat. hiſt. Lib.* xxxi. *cap.* 3.

certainly

certainly injure the parts by their heat and acrimony. Nor can I avoid obſerving, though I am extremely ſorry for the occaſion, that ſome gentlemen of the faculty a few years ſince acted a part much beneath their character, firſt in ſuffering themſelves to be impoſed on, and then in encouraging the legiſlature to purchaſe an old woman's medicine at an exorbitant price; by vouching that it was capable of breaking the ſtone in the bladder, and bringing away the fragments with the urine. This medicine is a compoſition of *ſoap* and *lime* made of different *ſhells*, which every body knows to be highly cauſtic. And while the ſcheme was carrying on, ſome ſtones, cut out of the bladders of patients, who had uſed the medicine, were very induſtriouſly handed about, as a teſtimony of its lithontriptic quali-

ty;

ty; becauſe theſe ſtones had inequalities and holes here and there in their ſurface, which were aſſerted to be eroſions made by the medicine. But thoſe gentlemen ought to have known, that ſtones are ſometimes naturally formed in the bladder with ſuch inequalities and pits on their ſurface, as may be miſtaken for real eroſions: ſeveral examples of which have fallen under my own obſervation. So great is nature's variety in forming calculous concretions. But upon this ſubject I refer the reader to a very uſeful book publiſhed ſome years ſince by a skilful anatomiſt and phyſician; in which both the miſchiefs done by this medicine, and the artifices employed to bring it into vogue, are ſet in a clear light (1).

(1) *Parſon's Deſcription of the human urinary bladder*, &c.

Now, whereas ſuch vaſt encomiums were beſtowed on this new medicine, as it was then called; it is no way ſtrange, that our legiſlature ſhould deſire to purchaſe the manner of making it at almoſt any price, in order to publiſh it for the benefit of the commonwealth. And indeed the purchaſe redounds as much to their honor, as it does to the diſcredit of their adviſers; who ought to have known, that things endued with ſuch a corroſive quality, as to be able to diſſolve the ſtone, could not lodge in the bladder without injuring that organ. Upon the whole, that compoſition, under due management, may be of ſome ſervice in expelling gravel by the urinary paſſages; but it will never be able to break *calculi* of the hardneſs of ſtone: and beſides, its

long

long continued uſe muſt be attended with great danger, for the reaſons above given. And as for its ſubſtitute, the *ſoap leys*, though it be a medicine of a more commodious form for taking; yet it will not prove much ſafer in its conſequences, for the ſame reaſons.

NEVERTHELESS, as nothing ought to be diſguiſed, no truth concealed, in a matter of ſuch moment; I think proper to take notice of what the learned Dr. *Robert Whytt* of *Edinburgh* found by experiments relating to the preſent inquiry (1). For that gentleman, after ſeriouſly conſidering the inconveniences, and ſometimes the miſchiefs alſo, of this celebrated ſpecific, reſolved to omit the *ſoap*, and try what virtues *lime-water*

(1) *Medical eſſays, Edinburgh, Vol.* v. *eſſay* 69.

might

might have in diſſolving the *calculus*. His firſt experiments were made on ſeveral fragments of *calculi* with lime-water from common quick lime; and afterward reſolving to try the power of animal lime, he repeated them with lime-water made with oyſter-ſhells and cockle-ſhells well calcined, by pouring ſeven or eight pints of water on one pound of the freſh-calcined ſhells. The experiments ſucceeded with both ſorts; but he ſoon found that the oyſter and cockle-ſhell lime-water poſſeſſed a much greater power of diſſolving the *calculus* than that of ſtone-lime. Then he propoſes the method of drinking the ſhell lime-water, the quantity of which may amount gradually to four pints every day for adults, and for children leſs in proportion: and he concludes with inſtances

of the happy effects of this method.

His whole diſſertation is very well worth the peruſal. And I have given this ſhort account of his method with the greater pleaſure, becauſe an eminent phyſician here in *London* lately aſſured me that he cured a certain merchant, who was grievouſly afflicted with the ſtone, by this very method: whereby he diſcharged by urine a great number of ſmall pieces, ſome like the coats, others like ſmall *nuclei* of ſtones. But it is never to be expected, as I have ſaid above, that ſtones, which have acquired a degree of hardneſs little inferior to flint, can be broken or diſſolved by any medicine whatſoever.

Therefore I heartily congratulate my fellow-citizens upon the skill and dexterity of our ſurgeons,

ſurgeons, who have invented a new way of cutting for the ſtone with greater ſafety and diſpatch (1). For now not only children and youths, but alſo perſons advanced in years, may ſubmit to this operation without great danger: and in caſe the ſtone prove too big to be extracted without tearing the neck of the bladder, it is now no longer neceſſary to ſplit the ſtone (before the extraction); the invention of which is aſcribed to *Ammonius*, a *Greek* phyſician, who from thence was ſurnamed (λιθοτόμος) the lithotomiſt (2).

(1) See *Cheſelden's Anatomy, chap.* vi. *of the fifth edition.*

(2) *Celſus Lib.* vii. *cap.* 26.

CHAPTER XI.

Of the diſeaſes of the eyes.

THE diſeaſes of the eyes have been treated of by medical writers with ſuch care, that I think it almoſt unneceſſary to ſay any thing here concerning them. Among the ancients *Celſus* (1) in particular, and among the moderns *Plempius* (2), have moſt accurately enumerated and diſtinguiſhed them. The former indeed was poſſeſſed of the works of the *Greek* phyſicians and ſurgeons, which are not come down to us, and out of which he

(1) *Lib.* vi. *cap.* 6.
(2) *Ophthalmographia. Lovan*, 1659.

ſelected

ſelected ſeveral very good medicines with great judgment: and the latter has made uſe of all the modern diſcoveries, to improve the practical part. To theſe two authors I would add a book compoſed by two eminent mathematicians; in which every thing relating to viſion is explained with great perſpicuity (1). And Dr. *Porterfield*'s diſſertations on this ſubject (2) are extremely worthy of a ſerious peruſal.

WHEREFORE I ſhall content myſelf with making a few remarks on ſome very conſiderable diſeaſes of the eyes, the nature of which has not been ſufficiently under-

(1) *A compleat ſyſtem of opticks, by Robert Smith, LL.D. with an eſſay upon diſtinct and indiſtinct viſion, by James Jurin, M. D. Cambridge* 1738.

(2) See *Medical eſſays publiſhed at Edinburgh, Vol.* iii. *pag.* 160. *and Vol.* iv. *pag.* 124.

ſtood

ſtood by the generality of practicioners.

SECTION I.

Of the gutta ſerena.

WHAT the *Greeks* named ἀμαύρωσις, and the *Latin* writers of the lower ages expreſſed by the barbarous word *gutta ſerena*, is a very ſevere diſeaſe, and of very difficult cure. It proceeds from various cauſes, of which the moſt common is an obſtruction gradually formed in the arteries of the *retina* by a ſizy blood. For the conſequence of this obſtruction is, that the rays of light, which ſhould depict the images of objects on the bottom of the eye, falling on theſe dilated blood-veſſels produce no effect; whence the ſight is either diminiſhed, or entirely loſt, according to the degree of the obſtruction.

ſtruction. Again, this diſeaſe is ſometimes owing to a palſy of the nerves of this ſame membrane; as it in ſome meaſure deſtroys their ſenſibility; whereby the impulſe of the corpuſcles of light on them is not ſufficient, to make them tranſmit objects to the brain. Infine, I have obſerved that this ſpecies of blindneſs is alſo occaſioned by a preſſure on the optic nerves, either by the extravaſation of a glutinous humor, or by a hard tumor formed upon the place, where they paſs from their *thalami* into the eyes: whereby the paſſage of the animal ſpirits to the brain is totally intercepted.

So many are the accidents incident to the eye even in one diſeaſe. Let us now conſider how to preſerve this organ, which has ſo great a ſhare in making life uſeful and agreeable.

AND firſt we ought to know how to diſtinguiſh the ſeveral ſpecies of the *gutta ſerena* abovementioned, and their good and bad ſymptoms.

WHEREFORE a gradual dilatation of the pupil is a ſign of an obſtruction in the blood-veſſels by a ſizy blood. For this dilatation is the work of nature, in order that the detriment, which the ſight ſuffers by many of the rays of light falling on the ſmall arteries, inſtead of the nervous *fibrillæ*, may be compenſated by taking in a greater number of theſe rays. Hence the palſy of the nerves, with which they are frequently ſtruck at once, ſeldom or never occaſions this dilatation. But the preſſure on the optic nerve, either by an extravaſated humor, or a tumor gradually encreaſing, is attended with a wider pupil for the aforeſaid reaſon.

UPON

UPON this principle it is, that the ſecond and third ſpecies of the *gutta ſerena* may be deemed incurable. For what medicine can be adequate to the removal of a ſudden relaxation of the nerves, or of a load of extravaſated humors, or a tumor formed within the skull; which are rendered inacceſſible by their very ſituation? Wherefore 'tis only the firſt ſpecies of this blindneſs, that is curable. Unleſs there may perhaps be ſome faint hopes of relieving that ſort, which proceeds from a palſy of the *retina*, by antiparalytic medicines; of which the principal are *aromatics*, *chalybeates*, and the *foetid gums*.

BUT it is time to come to the cure, which in general conſiſts in removing the obſtruction of the veſſels, and correcting the len-

tor of the blood. Wherefore firſt of all blood is to be drawn both from the arm and the jugular, and to be repeated according to the degree of the diſeaſe. And it will be of uſe to apply cupping glaſſes, with deep ſcarifications, under the *occiput*; in order to let out blood this way from the *lateral ſinuſes* of the brain. Then it will be neceſſary to give cathartics, eſpecially ſuch as purge groſs humors. But as nothing is found more powerful than quick-ſilver for inciding and expelling groſs and viſcid humors; it will be very proper to join *calomel* to other cathartics; or rather to take it by itſelf, and a few hours after it, ſome gentle purgative.

And this method often ſucceeds, when the diſeaſe is beginning or recent; but if it be of ſome

ſome ſtanding, it requires a more powerful treatment, that is, a plentiful ſalivation raiſed by mercurials taken inwardly in ſmall quantities, and at ſhort intervals. For mercury, by its extraordinary weight and diviſibility into extremely minute globules, penetrates into the inmoſt receſſes of the body, ſcours the glands and veſſels, and carries off the *ſordes* by the moſt convenient outlets.

I MADE the firſt trial of this courſe on poor patients in the hoſpital, when I was a young practicioner, and afterward on others, who thereby recovered their ſight; for which I was complimented by the phyſicians, who till then had looked on the diſeaſe as incurable, eſpecially if confirmed by time. Now the motive, which determined me to try the effect of this courſe,

was, that I had found by the laws of optics, that certain corpuſcles floating in the aqueous humor of the eye could not be the cauſe of this diſeaſe, according to the common opinion; becauſe they muſt be too near the bottom of the eye to be able to depict their image there. Wherefore there was a neceſſity of ſeeking ſome other cauſe; and whether I have found the true one, is entirely ſubmitted to mathematicians. For my part, I cannot help thinking, that this invention is a remarkable inſtance of the great uſe of true mathematical knowlege toward eſtabliſhing a right method of practice.

SECTION II.

Of the cataract.

THE cataract, by the *Greeks* named γλαύκωμα, by the ancient *Latins*

Latins ſuffuſio, and by the modern *cataracta*, is an opacity of the cryſtalline humor, which from tranſparent is generally changed to a greyiſh colour; whereby the paſſage of the rays of light to the bottom of the eye is intercepted.

PHYSICIANS in all former ages were of opinion, that this ſpecies of blindneſs was owing to a membrane preternaturally growing before the cryſtalline humor, and covering its anterior ſurface in the manner of a veil; and that the ſight was reſtored by depreſſing this membrane with a needle. But the erroneouſneſs of this opinion has been at length diſcovered and demonſtrated in this century. For in the diſſection of eyes, both of perſons who had been afflicted with cataracts, and had never been couched; and of others, on whom the

the operation had been performed with ſucceſs; there was not the leaſt appearance of a membrane, but the dryneſs, hardneſs and opacity of the cryſtalline humor or lens was found to be the cauſe of the diſeaſe (1).

HOWEVER I muſt not omit taking notice, that a real membrane has been ſometimes found, though the caſe be very rare (2): an inſtance of which has been lately ſhewn me by our excellent anatomiſt Dr. *Thomas Lawrence* in an elegant preparation of a child's eye injected by him; in which there plainly appeared a membranous expanſion that covered the pupil, and had its blood-veſſels

(1) See *Antoine Maitre — Jan, Traité des maladies de l'oeil. Troyes*, 1707.

(2) See *Hiſtoire et memoires de l'academie royale des ſciences. Paris*, 1708.

filled

filled with the injection. And hence I draw this general inference, that although it be very certain, that in moſt caſes of this diſeaſe it is the cryſtalline humor that is removed out of its place by the operation; yet it may ſometimes happen, that the needle depreſſes a membrane, which by ſome accident was grown hard and opake.

UPON the whole, the hand of a skilfull ſurgeon is the only remedy in this diſorder. But the operator ought to wait for a certain degree of ripeneſs of the cataract, and give attention to other circumſtances; in order to determine the time of performing the operation with ſafety and a proſpect of advantage.

SEC-

SECTION III.

Of the albugo.

THE *albugo*, or white ſpeck in the eye, is likewiſe a troubleſome diſeaſe, which is more or leſs offenſive to the ſight, according to the greater or leſſer portion of the tranſparent part of the *cornea*, affected by it. For ſometimes it fixes on the exterior ſurface only of this membrane, ſometimes on the interior; and ſometimes infine it runs more or leſs deep into it.

IT is moſt commonly the conſequence of inflammations, by the extravaſation of humors between the membranes of this tunicle; and particularly in the ſmall-pox, by the ſuppuration of puſtules upon this part.

I HAVE

I HAVE made uſe of two methods of cure for this diſorder of the ſight; the one in the outward ſort, the other in the inward. In the former caſe I ordered the following powder.

TAKE of *common glaſs* any quantity. Pound it in a mortar into a very fine powder: then add an equal quantity of *white ſugar candy*, and levigate the mixture on a marble with great labor, till it becomes quite impalpable.

A LITTLE of this powder put into the eye with a quil, every day, gradually abſterges and wears off the ſpot by its inciding quality. The other method abovementioned of removing this ſpeck is, to order

a dexterous ſurgeon to pare it cautiouſly every day with a knife: for this tunicle is compoſed of ſeveral *lamellæ*, one over another; and has thickneſs enough to bear paring off ſome of its parts. I have ſeen ſeveral inſtances of cures by the eye-powder; but the paring of the *cornea* has not ſucceeded with me above once or twice. However it is better to try a doubtful remedy than none.

The force of odors.

I HAVE hardly any thing of great moment to propoſe concerning the reſt of the ſenſes; except a few hints relating to the organ of ſmelling. For as daily experience convinces us of the great power of ſcents, both to do harm and good; I think it may be of uſe to give ſome ſhort remarks on them.

AND

And firſt, their miſchievous effects in communicating contagious diſeaſes are ſufficiently manifeſt. For it is moſt certain, that the ſubtile *effluvia*, which iſſue from an infected body, being taken in with the breath, do infect a ſound habit. Moreover every body is ſenſible, at one time or other, that from this cauſe proceed head-achs, and ſickneſſes at ſtomach by the acquired ill quality of the ſpittle. But on the other hand, nothing is more notorious than the great energy of odoriferous things in repairing our ſtrength. And this is effected, either by the animal ſpirits being rouzed out of a ſtate of oppreſſion, or by being refreſhed and recruited by ſuch things as emit particles, that are friendly and agreeable to nature, applied to the noſe. For *effluvia* of this

kind are, as it were, a proper food for the animal ſpirits.

Now, of all the odoriferous bodies hitherto known, the moſt powerful are *ſpirits* and *volatile ſalts* extracted by fire from animal ſubſtances; and next to theſe are thoſe animal glands diſtinguiſhed by the names of *caſtor*, *musk* and *civet*. But there may perhaps be juſt cauſe to admire, that theſe bodies do not equally agree with all conſtitutions. For many are wonderfully refreſhed by *musk* and *civet*; whereas we ſee others, who are more or leſs over-powered, even to a degree of ſickneſs and fainting, by the ſcents of theſe ſame perfumes; and yet are refreſhed and revived by *caſtor* and *aſa foetida*. This difference ſeems, in my opinion, to ariſe from a different habit of the nervous fluid in

different

different perſons; and nature generally points out, which of this claſs of bodies will be beneficial, and which hurtful, to each individual. Nor have I the leaſt doubt, but that a ſenſe of the efficacy of theſe things is conveyed to the mind by the fluid of the nerves. And ſuch is the wiſdom and goodneſs of the ſupreme Creator in the conſtruction of our frame, that he has made thoſe things pleaſant to the ſenſes, which are proper for the preſervation of life, or neceſſary for the propagation of the ſpecies. Nevertheleſs moderation is to be conſtantly obſerved in all theſe things, to prevent the allurements of pleaſure from hurrying us into exceſſes, which may prove prejudicial both to the ſoul and body.

CHAP-

CHAPTER XII.

Of the gout.

THE gout is moſt commonly a diſeaſe of perſons, who have too much indulged themſelves in high living; in which nature endeavors to throw the load of noxious matter out of the body upon the joints. Thus this diſorder is rather to be deemed a criſis of the diſeaſe, than the diſeaſe itſelf: and in this view great care and prudence are required, to facilitate nature's attempt in producing the effect. Wherefore the pain is by no means to be mitigated by external remedies of any kind whatſoever. For by attempting this the gouty humor may be thrown back

back upon the vital organs in an inſtant, and the patient's life put into imminent danger; which ſeems to afford a remarkable proof that this violent commotion in the body is owing to a very ſubtile and active fluid, and ſuch is the nervous juice. But in caſe this firey humor ſhould happen to remove from the limb into the body, all poſſible means ought to be uſed, to make it return on the part. And this is to be done by blood-letting; the warmer cathartics, which are not violent in their operation; alexipharmacs; and above all by epiſpaſtics laid on the limbs, with regard always had to the place affected. For nothing is more deſirable, than that the evil ſhould fix for ſeveral days on thoſe parts of the extremities of the body, which it has firſt taken poſſeſſion of; becauſe when it once returns into the habit,

it

it is with great difficulty driven out again: ſo that perhaps it may be juſtly ſaid, that the *gout is the only cure of the gout.*

THE ſeat of this diſeaſe is in the ligaments of the joints, the tendons of the muſcles ſubſervient to their motions, and the membranes ſurrounding the bones. And when the acrimonious humor has fallen on theſe parts, it irritates and frets them: hence ariſes an inflammation, and a painful tumor is formed by the ouzing of the thinneſt part of the juices out of the minuteſt ramifications of the arteries and nerves. For nature makes uſe of pain as an inſtrument; and the ſharper it is, the more ſpeedily and ſafely ſhe finiſhes her work. Sometimes indeed ſhe does it ſlowly, as if ſhe neglected her duty; and in ſome habits of body ſhe protracts

tracts the torture a longer time than uſual, as if her intention was to divide her medicine. But when the tumor ſubſides, part of the extravaſated humor, which could not perſpire through the pores of the ſkin (and there is but a ſmall portion of it indeed, that is exhaled this way) is abſorbed into the veins and lymphatics: while the thickeſt part of it ſticks to the membranes; and freſh quantities of it being lodged there in every fit of the gout, it ſometimes concretes into hard maſſes, commonly called chalk-ſtones, which by degrees ſtuff the joints, and deſtroy their action.

As to the medical treatment, different methods are to be purſued in the fit, and out of it. Quiet is not only indicated but enforced by the very incapacity to motion.

In caſe of a fever, the diet ſhould be the ſame as in acute diſeaſes; otherwiſe, common food of eaſy digeſtion may be allowed. For great care muſt be taken of the ſtomach and ſtrength. And this circumſtance, which I have ſcarcely ever remarked in any other diſtemper, is here to be obſerved; that when the gout has ſeized the ſtomach, this organ becomes ſo cold and torpid, that wine ſeems no ſtronger than water; and it requires and eaſily bears the hotteſt liquors, ſuch as ſpirits drawn from wine. Wherefore not only generous wines are to be given in pretty large quantities; but alſo vinous ſpirits, rendered more efficacious by the infuſion of *ſnake-root*, *ginger*, or *garlick*. And if theſe ſhould not prove powerful enough, it will be proper to order the powders of *ſnake-root*, *ginger*, and *long pepper*, mixed

mixed with the *cordial confection*, to be taken by the mouth.

It has been diſputed among phyſicians, whether, or not, a vein may be opened, when the pain in the joint is extremely ſevere. Now, to ſettle this point, we ought never to forget, that this pain is highly neceſſary for tumefying the part, and therefore ought to be born with patience. This however notwithſtanding, ſeeing it is certain that exceſſive heat is an obſtacle to the natural ſecretions from the blood, which are neceſſary for health; if the fever run very high, and eſpecially if it be attended with a *delirium* or difficulty of breathing, blood-letting will not only leſſen the pain, but likewiſe happily promote the iſſue of the

humor (1). Nay it will be requiſite to repeat the operation, when there appear ſigns of a comatoſe diſpoſition. For I have very frequently obſerved phyſicians to be too timorous with reſpect to this evacuation, from a notion that it would prevent the gouty humor from being thrown upon the joints. Upon the whole, one effect of blood-letting is, generally to make the diſeaſe abandon the place where it was lodged: and the great benefit of this removal in ſeveral caſes is manifeſt. But as for anodynes, they are not to be allowed, excepting in vomiting and looſeneſſes. Nor do gouty people (to ſay it once for all) bear cathartics well, till the paroxyſm is over; and then they may be given, to carry off the

(1) See *Diſcourſe of the ſmall pox, chap.* iii.

remains

remains of the morbid humor, which raiſed the tumor.

Of greater difficulty and moment is the queſtion concerning the regimen, whereby a perſon may entirely rid his conſtitution of this tormenting diſorder, and keep it off for the future. Upon which the firſt conſideration ought to be, whether that can be done with ſufficient ſafety and advantage to the patient. For as to elderly people, who have been accuſtomed for many years to returns of the diſeaſe; if the fits come on no more, their bowels are attacked inſtead of their joints; and beſides they are ſeized with ſuch weakneſs in their legs and feet, that the remainder of their life is quite miſerable: and of this I have ſeen more than one inſtance in perſons, who had

had abſolutely confined themſelves to a milk and vegetable diet.

THEREFORE if any one be deſirous of trying the experiment, and runing the risk of its conſequences, let him remember that he ought to be young, and not to have had above two or three fits of the gout. Then let him obſtinately abſtain from wine and all other fermented liquors, and for drink confine himſelf to water. Let his food be milk and things made from it, and vegetables; beſides which he may make one meal a day on fleſh of the tender ſort, ſuch as that of chickens, fowls and rabbits, and now and then on freſh-water fiſh. Let him uſe daily exerciſe, but with moderation. By this courſe of living I have known ſome live comfortably to a good old age, without the leaſt attack of the

the gout. Of ſuch conſequence it is to live according to nature, that is, to practice temperance. And a trial of this courſe of life is in a peculiar manner adviſeable for thoſe, who may expect to be puniſhed for the irregularities of their parents, not for their own, by a hereditary gout; in order to prevent its ſeeds, ſown in their blood and nervous fluid, from producing diſagreeable fruits in time.

I SHALL cloſe the preſent chapter with this admonition, that although I ſaid above with great truth, that *this diſorder is rather to be deemed a criſis of the diſeaſe than the diſeaſe itſelf*; yet ſometimes, eſpecially in old age, it is a very ſevere evil; when the ſtrength is ſo decayed, and the limbs ſo weakened, that bodily motion is loſt, and with it a conſiderable

ſhare

ſhare of the comforts of life. However, this, like all other calamities, is alleviated by patience. And perhaps it may be ſome conſolation to others, as well as it was to *Sydenham*, in the midſt of tortures, that *great monarchs, potentates, generals, admirals, philoſophers, and many others like them, lived, and at length died in the ſame manner* (1).

(1) *Tract. de Podagra. ed.* 1. *page* 24.

CHAP-

CHAPTER XIII.

Of pains in the joints.

THOSE pains of the joints, which are accompanied with inflammation and tumor, have an affinity with the gout. The proper method of curing them is by bleeding, bliſtering the parts affected, and, unleſs the fever runs high, by purging. If there be no fever, or but a ſlight one, a mixture of equal parts of *gum guaiacum* and *cinnabar of antimony* will prove a very good medicine, both to open the body, and correct the acrimony of the humors. It ſhould be given ſo as to procure two ſtools at leaſt every day.

Of all theſe pains the moſt ſevere is that, which the *Greeks* name ἰσχιὰς, (and we corruptly *ſciatica*) becauſe it ſeizes the hips; and it is attended with the greater difficulty, becauſe it is moſt commonly the conſequence of chronical diſeaſes, by the morbid matter being thrown on this part. This diſeaſe, when grown inveterate, weakens the thigh and leg, and makes the patient lame: and ſometimes alſo the head of the thigh-bone ſlips out of the ſocket, and then the thigh ſoon waſtes away.

In this diſeaſe little is to be expected from cupping or bliſtering the part: for the acrid humor lies too deep fixed in the membrane ſurrounding the bone, to be drawn out by theſe means. More efficacious is the *volatile epithem*, or a plaſter compoſed of *Burgundy pitch*,

pitch, with about an eighth part of *euphorbium*, and a ſufficient quantity of *Venice turpentine*.

BUT nothing gives ſo much relief, in an obſtinate caſe eſpecially, as a *ſeton* paſſed below the part affected, in order to give vent to the morbid humor. But if this operation be thought to be too cruel and troubleſome for the neceſſity of it, it will be of uſe to make an *iſſue* with a cauſtic in the inſide of the thigh above the knee; which muſt be kept open till the diſorder is quite removed. *Celſus* (1), following the example of *Hippocrates* (2), adviſes to apply the actual cautery in three or four places upon the hip. And indeed no remedy would be more efficacious than this, if patients could be reconciled to it: for

(1) *Lib.* iv. *cap.* 22.
(2) *Aphor.* vi. 60.

how terrifying ſoever the ſight of red-hot iron may appear, the pain from the application of it would be much ſooner over, than that which is raiſed by the common cauſtics.

THE fleſh-bruſh ought likewiſe to be uſed ſeveral times every day, in order to facilitate the digeſtion and diſſipation of the concreted humor; and more eſpecially on the very hips, if practicable. But fomenting the part affected with warm water is generally prejudicial: becauſe this brings on a relaxation of the fibres, whereby the pain is encreaſed.

I NOW paſs to internal remedies, the chief of which are bleeding and purging. Of cathartics the moſt efficacious are *dulcified mercury ſix times ſublimed*, and the *electary of ſcammony*; either of which

which muſt be often repeated, according to the patient's ſtrength. And in the intermediate days of purging, the proper medicines are ſuch as are diuretic and laxative at the ſame time. Of this claſs I give the preference to the *volatile tincture of gum guaiacum*, or the *balſam of guaiacum*.

CHAP-

CHAPTER XIV.

Of the diſeaſes of the skin.

I SHALL ſay nothing at preſent of thoſe eruptions, which happen in fevers; nor of the blotches and ſpots, which appear on the skin in ſcorbutic habits: becauſe all theſe are treated of in their proper places (1). But of all the diſeaſes, which infeſt the ſurface of the body, the moſt filthy is the *leproſy*. This is of two kinds, the one is named the leproſy of the *Greeks*, the other that of the *Arabians*: but I have conſidered them both in another book, with regard

(1) *Chap. of fevers*, and *the ſcurvy*.

to

to their nature and method of cure (1).

THE diſeaſe next to this in foulneſs, but of a very different origin, is the *itch*. This firſt appears in a reddiſh roughneſs of the skin; which is ſucceeded by pimples, that let out matter or a ſharp ichor; and the exulceration is attended with itching, and ſpreads by contagion. It may juſtly be called an animated diſeaſe, as owing its origin to ſmall animals. For there are certain inſects, ſo very ſmall as hardly to be ſeen without the aſſiſtance of a microſcope, which depoſit their eggs in the furrows of the cuticle as in proper neſts; where by the warmth of the place they are hatched in a ſhort time; and the young ones coming to full growth penetrate into the very *cutis* with their ſharp

(1) See *Medica ſacra*, *chap.* ii.

heads,

heads, and gnaw and tear the fibres. Their bitings cauſe an intolerable itching, which brings on a neceſſity of ſcratching; whereby the part is torn, and emits a thin humor, which concretes into hard ſcabs. While the little worms conſtantly burrowing under the cuticle, and laying their eggs in different places, ſpread the diſeaſe.

HENCE the reaſon manifeſtly appears, why the diſeaſe is communicated by the linnen, wearing apparel, gloves, *&c.* which were uſed by infected perſons. For the eggs, which had ſtuck to ſoft ſubſtances of this kind, are rubbed into the furrows of the cuticle, and are there hatched and nouriſhed.

NOW what is of greateſt moment in this theory is, that the knowlege of the true cauſe of the diſeaſe naturally points out the cure.

cure. For neither cathartics, nor ſweeteners of the blood, are of any ſervice here; the whole management conſiſts in external applications, in order to deſtroy theſe corroding worms, and this is eaſily effected. Wherefore firſt let the patient go into a warm bath, and then let the parts affected be anointed every day, either with the *ointment of ſulphur*, or the *ointment with precipitate of mercury*, which is leſs offenſive to the olfactory organs; inſtead of which a liniment may be made of *orange flowers*, or *red roſes*, *the mercurial red corroſive*, and *hog's lard*, pounded together; which is of a very pleaſant ſmell, and of equal efficacy.

ALL that I have ſaid on this ſubject may be found in the *Philoſo-*

phical Tranſactions (1). For in the year MDCLXXXVII Doctor *Giovanni Coſimo Bonomo*, an ingenious phyſician, publiſhed a letter written by him in *Italian* to the celebrated *Redi* of *Florence*, *concerning the worms of the human body*; wherein he fully handles this ſubject, and gives the figures of theſe worms and their eggs. And when I was upon my travels in *Italy* ten years afterward, having got a copy of the letter, I made an abſtract of it in *Engliſh*, and upon my return communicated it to the Royal Society.

(1) N° 283.

CHAP-

CHAPTER XV.

Of ſcrophulous diſeaſes.

THOSE hard ſwellings of the glands, which the *Latins* named *ſtrumæ*, the *greeks* χοιράδες and we the *king's evil*, are very obſtinate, and often perplex the phyſician; as they ſometimes bring on a fever, and never maturate kindly: and whatever way they are treated in order to open and cicatrize them, they generally break out again near the old ſcars. Their moſt common ſeat is in the neck, and in the armpits and groin, eſpecially in children: but ſometimes they appear on the

thorax, and on the breaſts of women. Moreover the humor often falls on the lungs, and brings on a pulmonary conſumption: and indeed that diſeaſe is generally owing to a ſcrophulous cauſe in this and other northern countries at leaſt. And it is a dreadful circumſtance of the *evil*, that it is tranſmitted from parents to their children by way of inheritance, which it does not eaſily give up.

As to the cure of this ſtubborn diſeaſe, it is to be attempted by bleeding, purging, and ſuch medicines as are moſt proper for correcting the viſcidity, ſaltneſs, and acrimony of the humors. Of cathartics the beſt is *dulcified mercury ſix times ſublimed*, which ſhould be joined with *rhubarb* for children; but to adults it may be given alone, with a gentle purging draught ſome hours

hours after it. The next to this in virtue is *jalap.* And our purging waters are alſo uſeful, as they ſcour the glands, and open the body at the ſame time. Infine a pil compoſed of *mercury ſix times ſublimed* and *precipitated ſulphur of antimony*, each one grain; of *aloes* three or four grains, made up with the *ſurup of balſam*, and taken every night, will be found ſerviceable not only in this diſeaſe, but in others ariſing from viſcid humors.

THE medicines, which correct this pravity of the blood and humors, are for the moſt part of the diuretic kind, ſuch as *burnt ſponge*, the *diuretic ſalt*, and *vitriolated tartar*; which are the more proper, becauſe they are ſomewhat laxative. To theſe may be added *the leſs compound lime-water.* For my

my part I have very often experienced the good effects of the following powder, taken twice a day, with three or four glaſſes of the aforeſaid water.

Take of *burnt ſponge* one ſcruple; of *purified nitre*, *coralline*, and *white ſugar*, each ten grains, mix.

And if the patient happen to be emaciated, equal parts of milk may be mixt with the water. *Millepedes* will alſo be of ſome ſervice upon account of their diuretic quality, eſpecially the expreſſed juice thus prepared.

Take live *millepedes*, pound them with a little powder of *nutmeg*; infuſe the maſs in ſmall wine; then ſtrain off the liquor by expreſſion, and

and ſweeten it with honey, or ſugar.

As to the patient's diet, which ought not to be neglected, let him feed on fleſh of eaſy digeſtion, and freſh water fiſh, eſpecially of the ſhell kind. Let him abſtain from all ſalt meats and high ſeaſoned things. Let him drink river water, and that boiled; but well or other ſtagnating water never, and leaſt of all ſnow water. For we obſerve, that the inhabitants of mountainous places, the *Alps* eſpecially, are naturally afflicted with ſwellings of the glands of the throat:

Quis tumidum guttur miratur in alpibus (1)?

Iſſues are likewiſe beneficial, to drain off the vicious humor; and

(1) *Juvenal. Sat.* xiii. v. 162.

a change

a change of climate is often attended with good effects, eſpecially if there be reaſon to apprehend the humor falling on the lungs: but the patient ſhould be ſent to a moderate climate, not ſubject to great viciſſitudes of heat and cold.

LASTLY it is to be noted, that this diſeaſe, notwithſtanding its ſtubbornneſs, ſometimes entirely wears off, in young folks eſpecially, without any medicinal aſſiſtance, by alterations in the habit of the body, which time and growth occaſion: and I am of opinion, that this circumſtance firſt gave birth to the cuſtom of the *royal touch*. For when crafty men obſerved that the *evil* was of this nature, they eaſily imagined that they would pleaſe their kings, in perſwading them to make this experiment of their power, and to introduce it with ſolemn

ſolemn rites and prayers; whereby they might acquire reverence from their ſubjects, and convince them that they held their crowns by *divine right*. And it is not matter of wonder, if the princes took the bait, and ſometimes believed that they were endowed with this gift from heaven; ſince according to the poet:

——*Nihil eſt, quod credere de ſe*
Non poſſit, cum laudatur dîs æqua poteſtas (1).

Moreover the world is willing to be deceived; and the experiment ſometimes ſucceeded, though the ſucceſs might probably be owing in a great meaſure to the force of imagination, which acts very powerfully in the cure of diſeaſes. Hence our kings (unleſs when a prince of more than ordinary wiſdom filled the throne) have for a long time

1) *Juvenal. Sat.* iv. *verſ.* 70.

conferred this favor on the credulous multitude with great humanity. But the *French* boaſt, that their kings had received this heavenly gift long before our monarchs.

CHAP-

CHAPTER XVI.

Of the ſcurvy.

THE name of *ſcurvy* is given by medical writers to a diſeaſe ſo various and different in appearance, that it does not ſeem to be one and the ſame diſtemper. In the northern countries it has always been common, and the nearer they are to the ſea, the more ſevere it proves: accordingly the *Danes*, *Norwegians*, and other inhabitants of the coaſts of the *Baltic* are vaſtly afflicted with it; nor do the *Germans*, *Dutch*, or our own countrymen eſcape its fury (1).

(1.) See *Eugalenus de ſcorbuto*, and *Sennertus*, *Lib.* iii. *part.* v.

IT begins by foul ulcers in the mouth and legs; whence it is called *ſtomacace* and *ſceletyrbe* by *Pliny*, who imputes it to the bad qualities of water, and ſays that the *herba Britannica* (which is believed to be the *hydrolapathum nigrum* of *Muntingius*, or *great water-dock*) was found to be its cure (1). But the diſeaſe was known long before *Pliny*'s time: for *Hippocrates* deſcribes it by the name of σπλῆν μέγας, or *great ſpleen*; and ſays likewiſe, that it ariſes from drinking cold, crude, turbid waters (2).

I REMEMBER to have formerly ſeen in St. *Thomas*'s *Hoſpital* an inſtance of this caſe in a country fellow of the *Iſle of Sheppey*; which place is notorious for moiſt thick

(1) *Nat. hiſt. Lib.* xxv. *ſect.* vi.

(2) See *De internis affect. ſect.* xxxiv. and *De aëribus, locis, & aquis, ſect.* x.

air,

air, and unwholſome water. When the *Roman* army, under the command of *Claudius*, landed in *Britain*, and the troops were ſtationed in the above-mentioned iſland and places adjacent, they there contracted this diſeaſe; and it is not improbable that ſome of the natives ſhewed them the herb, which *Pliny* ſays was of ſervice to them, and that the *Romans* gave it the name of *herba Britannica* from the country. For it is well known, that that emperor embarked his army for that expedition at *Boulogne*, which is directly oppoſite to *Kent* (1). *Strabo* relates a ſimilar ſtory of the *Roman* army, which *Auguſtus* ſent into *Arabia* under the command of *Ælius Gallus*. For he ſays, that while they were at *Albus Pagus*, the ſoldiers were

(1) See *Suetonius* in the life of *Claudius*, chap. xvii.

ſeized

ſeized with diſorders of the mouth and legs, called *ſtomacace* and *ſceletyrbe*, which are endemic in that country, and are a ſort of relaxation proceeding from the waters and vegetables (1). Now to me it is very plain, that the unwholſome ſea air, bad diet, and worſe water, rendered that climate ſubject to thoſe diſorders: for *Ptolemy* in his *Geography* places *Albus Pagus* on the coaſt of the *Sinus Arabicus* or *Red Sea*. But to return from this digreſſion: the poor patient abovementioned had an irregular intermitting fever with a bad habit of body; and likewiſe an illnatured ulcer in each of his legs. By the

(1) Στομακάκκη τὲ κ᾽ σκελοτίρβη πειραζομένης τῆς ϛρατιᾶς ἐπιχωρίοις πάθεσι, τῶν μὲν περὶ τὸ ϛόμα, τῶν δὲ περὶ τὰ σκέλη παράλυσίν τινα δηλούντων, ἔκ τε τῶν ὑδρείων, κ᾽ τῶν βοτανῶν. *Geograph. Lib.* xvi. *pag.* 781. *ed. Pariſ.* 1620.

uſe

uſe of medicines proper in the ſcurvy, I mean bitters and diuretics, he ſeemed to grow better: for one of the ulcers was by chirurgical applications entirely healed; but while the other was under cure, a gangrene ſeized the part unexpectedly; which being ſcarified, in order to check its progreſs, the patient died ſuddenly. Upon opening the *abdomen*, we were ſtruck with amazement at the monſtrous ſize of the ſpleen. For it weighed five pounds and a quarter, whereas the liver weighed but four pounds and a quarter. But its bulk ſeemed to be its only defect: for it retained its natural ſhape and color, and had not the leaſt ſcirrhoſity or other hardneſs: and its inſide was, as uſual, of a dark livid hue, with lax fibres, and deep-colored blood.

FROM the above-mentioned ulcers the breath becomes offenſive, the gums are corrupted, and turn livid and ſometimes blackiſh; and upon preſſing them lightly with the finger they emit a dusky gore. Beſides they are ſo lax and flabby, that they quit their hold of the teeth; and theſe are ſometimes ſo looſe, that they may be all pulled out with great eaſe. In the mean time greeniſh and livid ſpots, like the remains of *ecchymoſes*, appear on various parts of the body, as on the arms, buttocks, thighs, legs, and frequently all over the skin, ſo as to make it have the appearance of a jaundice. The patient is alſo tortured with ſevere gripings. And from this ſymptom it is, that the diſeaſe has obtained its name, being derived from the *Saxon* word *ſchor-*

bock

bock or *ſchorbuck*, which ſignifies tearings of the belly.

BESIDES unwholſome waters, medical writers attribute the diſeaſe partly to ſalted proviſions and pulſe; which, as they are of difficult concoction, furniſh the body with groſs and improper nutriment. But they ſeem not to have ſufficiently attended to a more univerſal cauſe, I mean bad air, which taken into the lungs is very prejudicial. This is particularly manifeſt in long voyages, in which the ſailors are moſt ſeverely afflicted with this diſtemper. Whereof we have a remarkable and moving account in the hiſtory of lord *Anſon*'s expedition to the *South Seas*; in which that great commander loſt near a third part of his men by this cruel enemy; and the calamity roſe to ſuch a high pitch, that the *callus*

of broken bones, which had been completely formed for a long time, was found diſſolved, and the fracture ſeemed as if it had never been conſolidated (1). Wherefore in theſe caſes there certainly muſt be a high degree of corruption of the bodily humors, and even a degree of putrefaction: and the blood becomes ſo foul a mixture, that whenceſoever it be drawn, it has nothing of its natural red color, but reſembles a dark muddy puddle. Now as to the manner, in which the cauſes abovementioned corrupt and putrefy the humors, it will be eaſily found by thoſe, who are well acquainted with the properties and laws of motion in the animal machine: which I need not dwell on in this place, becauſe I have pretty amply treated of them

(1) See *Anſon's voyage round the world. Lond.* 1748.

in

in a tract lately publiſhed, in which I demonſtrated the uſefulneſs of Mr. *Sutton*'s machine for extracting foul air out of ſhips and other cloſe places (1).

WITH regard to the cure, it is much eaſier to prevent the ſcurvy than to remove it; for when it has once taken root in the body, it is very difficult to drive it out by medicines. Now its beſt remedy is good wholſome air, and proper diet. Wherefore as ſoon as a perſon is taken ill, if he be at ſea, he ought to alter his ſituation as ſoon as poſſible, and get on ſhore, to breathe the native air; but if on land, he ſhould go into the country for the benefit of purer open air. And in both caſes what fleſh

(1) *Diſcourſe on the ſcurvy*, annexed to *Sutton's hiſtorical account of a new method for extracting the foul air out of ſhips*, &c. *Lond.* 1749.

he eats ſhould be freſh and tender; but the greateſt part of his food ought to be vegetables, both ſuch as abound in a volatile ſalt, as *ſcurvy-graſs*, *creſſes*, *brook-lime*, and the like; and thoſe which are of a cooling nature, as *ſorrel*, *endive*, *lettuce*, *purſlain*, and others of this kind. And it will often be beneficial to eat all theſe, or ſome of each ſort, promiſcuouſly together. But the greateſt ſervice may be expected from ſubacid fruits, as *lemons*, *oranges*, and *pomegranates*, eaten frequently, upon account of their cooling and ſub-aſtringent quality.

BUT I recommend to the reader the peruſal of the abovementioned voyage, which is written in clear and elegant ſtyle, and, beſides various intereſting incidents, which muſt give pleaſure to all orders of men,

men, contains many things proper for phyſicians to know. Nor will he perhaps repent his trouble, in turning over what I wrote on this diſeaſe in the tract, wherein I explained the uſefulneſs of Mr. *Sutton*'s machine. There he will find a remarkable caſe of a *Dutch* ſailor on board one of the *Greenland* ſhips, who was ſo waſted and diſabled by the ſcurvy, that he was put on ſhore in *Greenland*, and abandoned to his fate: and yet by feeding on *ſcurvy-graſs* (or rather grazing on it, for he had loſt the uſe of his limbs, and crawled about on his hands and knees) he was perfectly cured, and was found the enſuing ſeaſon on the iſland, and brought home in health and vigor.

But it is time to cloſe this chapter; which I do by recommending

ing *Mynſicht's elixir of vitriol*, taken in cold water at proper intervals, and ſometimes the *ſtyptic tincture* taken in the ſame manner, as very good medicines for checking hemorrhages, which are not uncommon in this diſeaſe.

CHAP-

CHAPTER XVII.

Of the hypochondriacal diſeaſe.

THE hypochondriacal diſeaſe is an indiſpoſition of the whole body, and not of any particular part: and yet the abdominal *viſcera*, *viz.* the ſtomach and inteſtines, the liver, ſpleen, pancreas and meſentery are chiefly affected in it, according to the peculiar nature of each of them. The ſtomach is diſordered with frequent *ructus* and flatulencies, the ſigns of crudities. The liver is ſwelled with thick viſcid bile, obſtructing its ducts. When the ſpleen is affected, the function of which ſeems to be, to convey a very fluid blood through its

its arteries, partly into its own cells, partly into the ſplenic vein, for the uſes of the liver; this blood grows ſo thick, as almoſt to ſtagnate in that vein, whereby this ſoft organ is tumefied and diſtended. If the *pancreas* be affected, the glands, which ſecrete the pancreatic juice, grow ſcirrhous in ſome degree, and perform their office too ſparingly: hence the bile, which mixes with it in the inteſtines, is not ſufficiently diluted; and the chyle being too thick paſſes with difficulty through the lacteals, and in ſome meaſure ſtagnates in its paſſage. When the *omentum* is diſordered in this diſeaſe, the thin ſubtile oil, which is collected in its cellules, in order to be conveyed to the liver, and there to be mixed with the blood brought thither from the ſpleen, paſſes in leſſer quantities than uſual: whereby the

blood

blood in the *vena portarum* is not rendered thin and fluid enough. Infine the conſequence of the meſentery being affected is, that through the obſtruction of its glands, and ſubſequent deficiency of the lymph, which they ought to ſecrete for the dilution of the chyle; this liquor becomes too thick, and leſs proper for nutrition. Hence it manifeſtly appears, that in this diſeaſe the blood and humors grow thick and ſluggiſh, and are rendered unfit for their reſpective motions, and the uſes of life.

THIS diſeaſe, ſo various in appearance, is chiefly owing to two cauſes, reſt of body, and agitations of mind: by the former the humors are rendered too ſluggiſh in their motions; and by the latter the blood at one time almoſt ſtagnates, and at another is driven on with

exceſſive vehemence: and health muſt ſuffer in both caſes.

THIS theory plainly points out the cure, which conſiſts in purging off and correcting the humors. Yet the diſeaſe does not require ſtrong cathartics; it is much ſafer to truſt to the milder ſort, ſuch eſpecially as attenuate the humors, and work by ſtool and urine at the ſame time. Of this kind are the *deobſtruent pils*, *aloetics* blended with *ſaponaceous medicines*, *rhubarb*, *Glauber's ſalt*, and the like.

THE lentor and thickneſs of the humors are moſt conveniently removed by chalybeates, bitters and aromatics, eſpecially in tinctures. And natural chalybeate waters are the moſt efficacious of all ſteel medicines.

INFINE all ſorts of bodily exerciſe are neceſſary; and in particular it will be of great ſervice to play at bowls or tennis, to toſs the arms briskly to and fro with lead weights graſped in the hands; but nothing is better than riding daily on horſeback.

I FINISH with a ſhort ſtory, which may ſeem ridiculous, but is true, and ſhews the whimſicalneſs, if I may uſe the expreſſion, of this diſeaſe. A certain fellow of a college, by too much indulging a ſedentary life, was ſo ſeverely afflicted with this diſorder, that he was at length obliged to take to his bed: and his hypochondriaciſm gradually roſe to that pitch, that he declared himſelf at the point of death. In that fit he ordered his paſſing knell to be rung in a church not far from his chambers: which

was accordingly done; but in ſo bungling a manner in his opinion, (for he had been a famous ringer in his younger days) that in a violent paſſion he jumped out of bed, ran to the church, chid the ſexton, and told him he would ſhew him the true way of ringing. Whereupon he graſped the rope, and fell to work with ſuch vehemence, that he ſoon wrought himſelf into a muck ſweat; then returned to bed, in order to die contented. But he was diſappointed, for the exerciſe reſtored him to life and health. Thus, as *Hippocrates* formerly obſerved (1), *contraries are the remedies of contraries.*

(1) Τὰ ἐναντία τῶν ἐναντίων ἐξ-ὶν ἰήματα. *De flatibus*, §. iii.

CHAP-

CHAPTER XVIII.

Of the affections of the mind.

THE affections of the mind, commonly called *paſſions*, when vehement and immoderate, may be juſtly ranked among diſeaſes; becauſe they diſorder the body various ways. The fact is indiſputable; but in order to account for the manner in which it is brought about, it is neceſſary to have a clear and diſtinct notion of the nature of the ſoul, and of the law of its union with the body: a point of knowlege, to which, in my opinion, we ſhall never attain in this life. For ſuch is the condition of our exiſtence, that though we have it

it in our power to exert the faculties of our mind and our bodily ſtrength with ſurprizing promptitude; yet we are groſsly ignorant of the manner and principle of all our actions, the knowlege of which ſeems quite unneceſſary for leading a good and happy life.

HOWEVER, we can eaſily perceive the effects of the commotions of the mind on our corporeal frame; nor is it any ways difficult to diſcern the alterations, which they occaſion in the blood and humors. For ſome of them retard, others accelerate the motion of the circulating fluid; while others again act as checks and ſpurs alternately. Thus grief and fear ſlacken its pace; anger, indignation, and intemperate luſt drive it on a full gallop: and a combination of theſe and the like commotions produces precipitate

tate and ſudden viciſſitudes of ſlowneſs and quickneſs. And it may not be amiſs to obſerve, that inordinate affections, dwelling long on the mind, frequently become tedious diſeaſes according to their reſpectives natures. So anxiety, deſpair, grief, cauſe melancholy; and anger ends in fury and madneſs. But the paſſions do not act with equal force on all individuals: their effect varies according to the diverſity of conſtitutions both of mind and body: and even in the ſame individual, the diſturbances, which they raiſe, are different at different times. So thoroughly incomprehenſible is the conſtruction of our fabric.

BUT there is another very wonderful circumſtance, which I do not find recorded by any other medical

dical writer but *Aretæus* (1). For it is not only true, as he obſerves, that the affections of the mind bring on bodily diſeaſes; but theſe diſeaſes likewiſe in their turn engender paſſions, and ſuch ſometimes as ſeem quite contrary to the nature of the diſeaſe. And this he exemplifies in a *dropſy, which, though it be a moſt pernicious diſeaſe, yet inſpires the ſick with courage and patience; not from any alacrity, or good hopes, as happens to thoſe, who are in proſperity, but from the very nature of the diſeaſe. A fact*, ſays he, *which we can only admire, without being able to diſcover its cauſe.*

But all thoſe things are performed by the intervention of the animal ſpirits, which make that

(1) *De cauſis et ſignis diuturnorum morborum, Lib.* ii. *cap.* 1.

great

great engin of the blood's motion, the heart, contract with leſſer or greater force. Wherefore the pulſe diſcovers thoſe alterations even in their very begining.

BUT before I come to the medical treatment of the diſorders of the mind, it may not be improper to take notice that the omnipotent Creator has given us theſe natural commotions for very wiſe ends; which ſeem to be, that thereby we may be urged with a kind of impetuoſity to ſhun evil, and embrace good. Wherefore the paſſions are not bad in themſelves; it it their exceſs that becomes vicious, when they riſe to ſuch an extravagant pitch as not to be governed by the dictates of reaſon.

NOW, to aſſwage theſe ſwelling ſurges of the ſoul, is the buſineſs of philoſophy. But, alas! in this

point all the precepts of the very Stoics commonly prove ineffectual; for the followers of this ſect frequently ſpeak mighty things, but live not up to their doctrine:

Naturam expellas furca licet, uſque recurret.
Nature expell'd by force reſumes her courſe.

However, we ought to uſe our beſt endeavors; for the more difficult the conflict, the more glorious will be the victory. It will poſſibly be ſaid by ſome, that a phyſician ſhould confine himſelf to the cure of bodily diſtempers, and leave theſe moral points to be controverted and ſettled by philoſophers. Now, whatever force this advice may have in other caſes, this before us ſeems to me of ſuch moment, that I beg to be indulged in the liberty I take, of interſperſing this medical

medical work with ſome few incentives to virtue, which I have learned in their ſchools.

FIRST then we all have a natural propenſity to pleaſures; but theſe are of two very different ſorts, the ſenſual and the mental. Senſual pleaſures engroſs the greateſt part of mankind; while thoſe few only, *quos æquus amavit Jupiter*, are taken with the beauties of the mental. And the reaſon why ſo many run after pleaſures of the firſt ſort ſeems to be, becauſe they hardly ever allow themſelves an opportunity of taſting the ſweets of an upright conſcience, or of feeling that joy, which ariſes to a good man from the moderation of his irregular deſires; and being entirely devoted to the gratification of their ſenſual appetites, they never give the leaſt attention to the real charms

of virtue. Wherefore whoſoever deſires to enjoy this ſolid happineſs, ought to inure himſelf by degrees to the love of virtue, and ever carefully to avoid adding fuel to the fire of his paſſions.

APPOSITE to theſe ſentiments is that ſaying, which *Cicero* puts into the mouth of *Cato*, as by him received from the great *Archytas* of *Tarentum*; *that nature never afflicted mankind with a more capital plague, than bodily pleaſure; the eager deſires of which ſpur on to enjoyment with ungovernable raſhneſs* (1). And the reſt of what that great philoſopher has written on this ſubject, muſt delight the mind of every wiſe man in the peruſal. Wherefore Virtue's exclamation in *Silius Italicus* is very juſt:

(1) *De ſenectute, Cap.* xii.

Quippe

Quippe nec ira deûm tantum, nec tela, nec hoſtes;
Quantum ſola noces, animis illapſa voluptas (1).

Pleaſure, by gliding on the minds of men,
More miſchiefs haſt thou wrought than hoſtile arms,
Than wrath of gods.

BUT, as the due government of the paſſions ſtrengthens the mind, ſo temperance in diet renders the body leſs expoſed to theſe turbulent motions. And this rule holds good not only in thoſe, who are naturally of a hot conſtitution; but even in thoſe, who curb their appetites: becauſe it keeps them in a ſtate of tranquillity.

AND this is the way in general to reſiſt theſe evils, or at leaſt to diminiſh their effects. But when they have taken deep root in the body, each of them requires its own proper remedies. In thoſe commotions, which check the courſe

(1) *Punicorum, Lib.* XV. *ver.* 94.

of

of the vital humors, ſpurs are neceſſary; but curbs, when they gallop too faſt. The *ſtrong-ſmelling gums*, *caſtor*, *volatile ſalts and ſpirits extracted from animals*, and things of this kind, are very convenient *ſtimuli*. Blood-letting, keeping the body open, *nitre*, and all other coolers reſtrain the impetuoſity of the blood. But it is of the utmoſt conſequence to frequent the company, and follow the advice, of perſons of fortitude and wiſdom: for in every ſtage and ſtate of life great is the power of example, whereby we inſenſibly learn to give ear to reaſon, and govern our paſſions; which, unleſs brought into intire ſubjection, will become our tyrants.

But as for thoſe, who would have us to be entirely devoid of paſſions, and to ſuppreſs all the affections

affections of the mind, as if they were ſo many evils; they certainly have a wrong notion of the wiſdom and goodneſs of the almighty Creator, who has inſerted, and as it were interwoven, them into our frame for excellent purpoſes: for they are not only beneficial to individuals upon many occaſions, as I have already ſaid; but even neceſſary for keeping up ſociety and connections between mankind.

CHAP.

CHAPTER XIX.

Of the diſeaſes of women.

ON the diſeaſes of women there ſeems to be the leſs neceſſity of ſaying much, becauſe a number of authors have taken vaſt pains in their deſcription and cure. Yet, to avoid the cenſure of neglecting that lovely ſex, I will briefly touch on a few points relating to their ailments; begining by thoſe, which are often the conſequences of a ſingle life. Of theſe the moſt frequent is

SECTION I.

The ſuppreſſion of the menſtrual diſcharges.

THE common cauſe of the ſtoppage of the menſtrual diſcharges is the

the blood's lentor; whereby this fluid becomes incapable of forcing the *ſphincters* of the ducts deſtined by nature for this evacuation. For it is not from the burſted arteries of the *uterus*, which is the common opinion, that the blood iſſues every month, but from veſſels peculiarly appropriated to this office. And this lentor or thickneſs of the blood changes the lively color of the face into a greeniſh pale and wan complexion.

THE proper medicines in this diſtemper are thoſe, which are capable of encreaſing the blood's circulation, and attenuating the viſcid humors: and ſuch are all *bitters* joined with *aromatics*, as alſo many preparations of *ſteel*. But to theſe ought to be premiſed blood-letting, and cathartics blended with *calo-*

mel. The *tinctura ſacra* is alſo an excellent medicine.

But of all the moſt powerful *emmenagogues*, I have found ſo ſingular a virtue in *black hellebore*, that I hardly remember it ever failed anſwering my expectations. My way of ordering it is, a tea ſpoonfull of *tincture of black hellebore* in a glaſs of warm water, to be taken twice a day. And I have obſerved this remarkable circumſtance; that whenever, either from a bad conformation of the parts, or any other cauſe, this medicine had not the deſired effect, the blood was forced out through ſome other paſſages: which is a manifeſt proof of the great power of this medicine in ſpurring the blood forward.

SEC-

SECTION II.

The exceſs of the menſtrual diſcharges.

But likewiſe the menſtrual diſcharges frequently run to exceſs. In that caſe the flux is to be reſtrained: which, after letting blood, is effected both by thoſe medicines, which condenſe and inſpiſſate the blood; and by thoſe, which allay its heat. Of the firſt ſort the principal are ſuch as participate of *vitriol* or *alum*; eſpecially the *tincture of roſes*; or a powder compoſed of *alum* three parts, and *dragon's blood* one part, melted together. But the heat of the blood, and its conſequeuce the flux, is more powerfully checked by the *Peruvian bark*, than by any other medicines whatſoever.

SECTION III.

The fluor albus.

THE *fluor albus* is a diſcharge of a whitiſh gleety matter by the natural parts of the ſex. This humor iſſues ſometimes from the veſſels of the *uterus*, and ſometimes from the glands of the *vagina*. In the former caſe this diſcharge is ſuppreſſed during the time of the menſtrual courſes; in the latter it ſubſiſts with them, and continues even in the time of pregnancy.

IN both ſpecies of the diſeaſe the principal intention ought to be directed toward mending the habit of body, from ſome fault in which they derive their origin: but when the ſeat of the diſtemper is in the *vagina*, it will moreover require topical applications.

WHERE-

WHEREFORE, generally ſpeaking, it will be proper to begin the cure by giving a vomit, eſpecially with *ipecacoanha wine.* Frequent purging is indicated, chiefly with *rhubarb*; which may be taken either in ſubſtance, with the addition of aromatics, and in ſome caſes of a little *calomel* now and then; or in the *tincture of rhubarb in wine.* And the laxity of the fibres requires aſtringents, particularly ſuch as have *ſteel* in their compoſition.

AS to external or topical remedies, which, I have ſaid, are neceſſary, when the *vagina* is the ſeat of the diſeaſe; we ought carefully to avoid applying all ſuch as are powerful repellers of the peccant humor: for thoſe only are ſerviceable, which deterge and heal the little ulcers of that membrane. For my part,

I have

I have often, with great ſucceſs, ordered the patient to inject a ſmall quantity of *Bates*'s *aqua aluminoſa*, or of the *camphorated vitriolic water*, with a little *Egyptian honey* added to either, into the *vagina* through a proper ſyringe, at repeated times. And it will be of ſome ſervice to fumigate the *vagina* now and then with a powder, made of equal parts of *frankincenſe*, *maſtich*, *amber*, and *cinnabar of antimony*, thrown on burning coals.

SECTION IV.

The hyſterical diſeaſe.

THERE is no diſeaſe ſo vexatious to women as that called hyſterical. It is common to maids, wives, and widows; and although it may not be attended with great danger, yet it is frequently very terrifying:

terrifying: and moreover it ſometimes deprives them of their ſenſes as effectually, as if they had been ſeized with an epileptic fit.

WHEN a woman has fallen into a hyſterical fit, blood-letting will be of uſe, if ſhe has ſtrength to bear it; if not, cupping glaſſes are to be applied to her groins or hips. But if ſhe continues long in it, it will be proper to put the ſnuf of a candle, or ſome other thing of a fœtid ſmell to her noſtrils, in order to rouze her. In the mean time her thighs and legs ought to be rubbed.

WHEN ſhe is recovered from the fit, proper means muſt be uſed to prevent a relapſe. If ſhe be liable to obſtructions, and not regular, the menſtrual diſcharges are to be promoted. The *ſtrong-ſmelling gums* and *ſteel* medicines are very ſerviceable:

ſerviceable: and it is beneficial to uſe exerciſe. But the diſturbances of the mind generally require proper remedies.

INFINE *Hippocrates*, after preſcribing *caſtor* and many other medicines, wiſely ſays, that a *woman's beſt remedy is to marry and bear children* (1).

SECTION V.

Difficult birth.

HUMANITY prompts us to give what aſſiſtance we can, beſides the manual operation, to the ſex in hard labor. For although provident nature has taken ſuch good care for the propagation of the human ſpecies, that the labor pains are ſeldom attended with much

(1) Ἄριστον δὲ ἐν γαστρὶ ἔχειν· τὴν δὲ παρθένον πείθειν ξυνοικεέιν ἀνδρί. *De morbis mulierum, Lib.* ii. *ſect.* 19.

danger;

danger; yet it ſometimes happens, that the birth is very difficult and tedious. And this difficulty proceeds from many different cauſes, with which thoſe who are truly skilful in the *obſtetrical* art are not unacquainted, and therefore they manage accordingly. But there is one caſe, in which they are often at a loſs what to do; and that is, when the lying-in woman is long teized with falſe pains, reſembling thoſe of the colic. When this happens, it is proper to give a grain or two of *opium*; whereby thoſe pains, which rather hinder than promote the delivery, are appeaſed; and then nature thus relieved does her work effectually. It is likewiſe of ſome moment in this caſe to know, that the opiate relaxes and opens the uterine parts, as it does all others that are in a ſtate of conſtriction or tenſion.

CHAPTER XX.

Of venereal diſeaſes.

THE venereal infection, that bitter ſcourge of unlawful embraces, would have proved the reproach of phyſicians; had not *quick-ſilver* been happily found to be its antidote.

THE nature, hiſtory, and progreſs of the diſeaſe have been ſo amply and elegantly deſcribed by the learned *Aſtruc* (1), that nothing more can be required on that head. But as to the manner, in which this ponderous fluid operates in

(1) *De morbis venereis.* Paris 1740.

the

the body, I think I have clearly explained it in another place (1), with ſome neceſſary cautions annexed. Wherefore the only thing now remaining is, to make a few remarks on a diſorder or two, which are the conſequences, either of the diſeaſe itſelf, or of a bad cure.

AND firſt that diſcharge of a mucous humor, commonly called a *gleet*, which ſometimes ſucceeds a *virulent gonorrhoea*, is very troubleſome and obſtinate. It proceeds both from the *veſiculæ ſeminales* and the *proſtate* gland, by the eroſion of the orifices of their ducts from the acrimony of the morbid humor; and is moſt commonly the reſult of an ill-judged method of curing the *gonorrhoea* with violent cathartics, which deſtroy the natural tone of the fibres.

(1) *Eſſays on poiſons*, 1747. *Eſſay* iv.

NOTHING is more common among practicioners in this caſe, than to adminiſter *balſamics*, with a view of ſtrengthening the parts; but generally without ſucceſs. It has been my practice for many years paſt to order the following tincture; and as I found it very efficacious, I have recommended it to a number of phyſicians and ſurgeons.

Take of *rhubarb* three drachms; of *gum guaiacum* a drachm and half; of *ſhell lake* a drachm; of *cantharides bruiſed* two drachms; of *cochineal* half a drachm: infuſe theſe ingredients in a pint and half of *rectified ſpirits of wine*, and ſtrain off.

OF this let the patient take from thirty to fifty drops (that is, as

as much as can be given without danger of bringing on a ſtrangury) morning and night, in a glaſs of warm water.

A HECTIC fever is now and then the conſequence of a long ſalivation. In this caſe a decoction of the *woods of guaiacum* and *ſaſſafras*, and the *roots of china and ſarſaparilla*, with a little *liquorice*, and *coriander ſeeds*, is to be drank plentifully, mixed with *milk*. And the patient ſhould continue this courſe, till he has recovered ſtrength and fleſh.

LASTLY it may not be amiſs to admoniſh, that the moſt proper time for ordering a ſalivation is, when either pocky eruptions have for ſome time appeared on the body, or ulcers eſpecially in the mouth and throat; and the bones are not yet become carious. For when

when they are actually foul, there is reaſon to apprehend, that their *lamellæ* may be broke aſunder by the ponderoſity of the mercurial globules. Wherefore it is ſafer to protract the cure by a more ſparing uſe of this medicine, than to hurry it on by a contrary practice.

CHAP.

CHAPTER XXI.

Of diſeaſes, which come upon, or are changed into, others.

IT is of great moment, both for the benefit of the patient, and the honor of the phyſician, to know what diſeaſes come upon, or are changed into, others. Wherefore I will briefly mention ſome of theſe.

AUTHORS indeed have raiſed great diſputes on the cauſes of theſe changes: but they are certainly different according to the nature of the reſpective diſeaſes. For ſometimes the conſent, and a certain affinity, of the affected parts with others

others not yet affected, cauſe the diſeaſe to paſs from the former to the latter. More frequently the vicinity of the parts makes the evil to ſpread from one to another. But moſt commonly ſuch is the nature of the diſeaſe, that it terminates in another, either by way of *criſis*, or through the foulneſs of the habit. Out of a number of examples, which I could produce, I ſhall ſelect ſome few.

THROUGH the conſent of the head and ſtomach, when this is loaded with phlegm, that is ſeized with giddineſs; and on the other hand, the repletion or other injury of the brain is attended with a ſickneſs at ſtomach. Through a ſimilar affinity between the liver and inteſtines, colic pains are often ſucceeded by a jaundice; and a jaundice ſometimes occaſions a co-

lic,

lic, by pouring ſharp bile into the guts. And ſuch is the connection of the *uterus* with many other parts, that *Hippocrates* pronounced *this organ to be the cauſe of all diſeaſes in women* (1). Now theſe parts are chiefly the head, lungs, and ſtomach; and the inſtruments of this ſympathy are the animal ſpirits, which being hurried by the paſſions, either convey the diſorders of the womb to the reſt of the body, or communicate the diſtempers of the body to that organ.

THE vicinity of the parts, which I have alleged as another cauſe of the ſucceſſion of diſeaſes, takes place chiefly in inflammations, by the tranſlation of the humor to the adjacent part. Thus a pleuriſy becomes a peripneumony; the iliac

(1) *De morbis mulierum, Lib.* ii.

paſſion ſupervenes a ſtrangury; the diſorders of the kidneys ſpread to the loins; and the pains in the loins are communicated to the kidneys.

INFINE the third cauſe, which I have aſſigned for the ſupervention or tranſition of diſeaſes, is the very nature of theſe diſeaſes; which as it is various, ſo it produces its effect various ways. The gout ſometimes turns into the colic, and the colic into the gout. Varicoſe ſwellings of the veins ſupervening pains in the joints indicate the diſtemper going off. An apoplexy is ſucceeded by a palſy; and this paralytic ſeizure of the nerves, whether of the whole body, or of ſome particular part, is the *criſis* of the apoplectic fit. But if from the paralytic limbs the diſorder returns to the head, death is gene-

rally

rally the phyſician. Difficulty of breathing, of long continuance, gives riſe to a dropſy in the breaſt as well as in the belly. An *anaſarca* affords great reaſon to apprehend an *aſcites:* and melancholy of long ſtanding is frequently ſucceeded by an epilepſy, which is hardly within the power of art to remove.

HIPPOCRATES collected a great number of obſervations to this purpoſe, and upon them built the divine art of prognoſtic in diſeaſes, to which I refer my readers. Wherefore I quit the ſubject with this admonition, that although the cauſes, which I have enumerated, often exert their power ſingly; yet it commonly happens, that more than one of them concur in effecting thoſe ſucceſſions and tranſitions of diſeaſes.

CONCLUSION.

Of the regimen of life.

I HOPE it will not be thought inconſiſtent with the ſcope of this treatiſe on the diſeaſes of the human body, to ſubjoin, by way of concluſion, ſome ſhort rules for the management of perſons in health through the different ſtages of life. Although indeed this task ſeems to be rendered almoſt ſuperfluous by the precepts delivered by *Celſus* (1): which whoſoever will obſerve, with due regard to the difference of climates and manner of living now and in the time of that

(1) *Lib.* i. *cap.* 1, 2, 3.

wiſe

wiſe author; moſt certainly, to uſe his own words, *will not in good health ſquander the reſources of infirmities* (1).

For ſuch is the natural conſtitution of the body of man, that it can eaſily bear ſome changes and irregularities without much injury: had it been otherwiſe, we ſhould be almoſt conſtantly put out of order by every ſlight cauſe. This advantage ariſes from thoſe wonderful communications of the inward parts, whereby, when one part is affected, another comes immediately to its relief. Thus when the body is too full and overloaded, nature cauſes evacuations through ſome of the outlets. And for this reaſon it is, that diſeaſes from inanition are generally more

(1) *In ſecunda valetudine adverſæ præſidia non conſumet.*

dangerous

dangerous than from repletion; becauſe we can more expeditiouſly diminiſh than encreaſe the juices of the body. Upon the ſame account alſo, though temperance be beneficial to all men, the ancient phyſicians adviſed perſons in good health, and their own maſters, to indulge a little now and then, by eating and drinking more plentifully than uſual. But of the two, intemperance in drinking is ſafer than in eating. And if a perſon has committed exceſs in the latter, cold water drank upon a full ſtomach will help digeſtion; to which it will be of ſervice to add *lemon juice* or *elixir of vitriol*, if he has eaten high-ſeaſoned things, rich ſauces, *&c.* Then let him ſit up for ſome little time, and afterwards ſleep. But if a man happens to be obliged to faſt, he ought to avoid all laborious work. From ſatiety

it

it is not proper to paſs directly to ſharp hunger, nor from hunger to ſatiety: neither will it be ſafe to indulge abſolute reſt immediately after exceſſive labor, nor ſuddenly fall to hard work after long idleneſs. In a word therefore all changes in the way of living ſhould be made by degrees.

It is alſo beneficial to vary the ſcenes of life, to be ſometimes in the country, ſometimes in town; to go to ſea, to hunt, to be at reſt now and then, but more frequently to uſe exerciſe: becauſe inaction renders the body weak and liſtleſs, and labor ſtrengthens it. But a mean is to be obſerved in all theſe things, and too much fatigue to be avoided: for frequent and violent exerciſe overpowers the natural ſtrength, and waſtes the body; but moderate exerciſe ought always to

to be uſed before meals. Now of all kinds of exerciſe riding on horſe-back is the moſt convenient; or, if the perſon be too weak to bear it, riding in a coach, or at leaſt in a litter: next follow fencing, playing at ball, running, walking. But it is one of the inconveniences of old age, that there is ſeldom ſufficient ſtrength for uſing bodily exerciſe, though it be extremely requiſite for health. Wherefore frictions with the fleſh-bruſh are neceſſary at this time of life, which ſhould be performed by the perſon himſelf, if poſſible; if not, by his ſervants.

SLEEP is the ſweet ſoother of cares, and reſtorer of ſtrength; as it repairs and replaces the waſtes that are made by the labors and exerciſes of the day. But exceſſive ſleep has its inconveniences; for it blunts the ſenſes, and renders them leſs

leſs fit for the duties of life. The proper time for ſleep is the night, when darkneſs and ſilence invite and bring it on: day ſleep is leſs refreſhing. Which rule if it be proper for the multitude to obſerve; much more is the obſervance of it neceſſary for perſons addicted to literary ſtudies, whoſe minds and bodies are more ſuſceptible of injuries.

THE ſofter and milder kinds of aliment are proper for children, and for youths the ſtronger. Old people ought to leſſen the quantity of their food, and encreaſe that of their drink. But yet ſome allowance is to be made for cuſtom, eſpecially in the colder climates, like ours: for as in theſe the appetite is keener, ſo is the digeſtion better performed.

Phyſicians are agreed, that copulation,
When age adult and high-braced nerves invite,
Should neither be immod'rately deſir'd,
Nor dreaded to exceſs. The good old man
Is by his tame frigidity admoniſh'd,
Not to engage in the dull drudgery,
Miſtaken for enchanting ſcenes of pleaſure;
Leſt thus he ſnap his feeble thread of life.
But what more baſe, more noxious to the body,
Than by the power of fancy to excite
Such lewd idea's of an abſent object,
As rouze the organs, form'd for nobler ends,
To ruſh into th' embraces of a phantom,
And do the deed of perſonal enjoyment!

INFINE this truth ought to be deeply imprinted in every mind, that this, and indeed all other,

Voluptates commendat rarior uſus.

Pleaſures are highten'd by a ſparing uſe.

FOR my part, after mature conſideration, I am long ſince come to this way of thinking. That although pleaſures, riches, power, and other things, which are called the gifts of fortune, ſeem to be dealt out to mankind with too much partiality;

partiality; yet if we take in the whole compaſs of the matter, we ſhall find a greater degree of equality of thoſe things, which conſtitute real happineſs, than is generally imagined. People of low condition for the moſt part enjoy the common advantages of life more commodiouſly than thoſe of the higheſt rank. Wholſome food is acquired by moderate labor; which likewiſe mends the appetite and digeſtion: hence ſound ſleep, uninterrupted by gnawing cares, refreſhes the wearied limbs; a flock of healthy children fill the cottage; the ſons grow up robuſt, and execute the father's task, making his hoary locks ſit comfortable on him. How vaſtly inferior to theſe bleſſings are the vain delicacies of moſt perſons of affluent fortunes, which are cloſely attended with real evils. In order to get down their

food, their ſtomachs require high ſauces, which heat and corrupt the blood, and render the body obnoxious to diſtempers: the debauches of the day diſturb their reſt by night: and in puniſhment for their vices, their ſons, the great ornament and ſupport of families, contract diſeaſes in their mother's womb; with which they are afflicted through the whole courſe of a languid life, which ſeldom reaches to old age. They are likewiſe frequently racked with anxieties for obtaining honors and ſplendid titles, ſo as to be deſpoiled of the comforts, which they might reap from their plentiful poſſeſſions, by the vain deſire of new acquiſitions. Wherefore

——— *Horum*
Semper ego optarim pauperrimus eſſe bonorum (1).
I always wiſh to be extremely poor
In wealth like this.

(1) *Horat. Satyr.* i. *v er.* 78.

But

But there is one great inconvenience more attending high living, that by over-loading the body the faculties of the ſoul are clogged, and the paſſions ſet all on fire; whereas on the contrary the ſlender and homely diet of the poor and laborious neither oppreſſes the ſtrength of body, nor ſupplies the vices with fuel. Therefore, unleſs prudence be a conſtant attendant on opulence,

Vivitur exiguo melius.

'Tis better living on a ſlender fortune.

Nor is nature to be deemed an unjuſt ſtep-mother, but a moſt provident and beneficent parent.

UPON the whole, it behoves a wiſe man in every ſtage of life,

—— *Servare modum, finemque tenere,*
Naturamque ſequi (1).

(1) *Lucan. Lib.* ii. *ver.* 381.

——To hold the golden mean,
To keep the end in view, and follow nature.

But whoſoever forms a right judgment of human nature, will certainly find, that as ſome men are vaſtly ſuperior to others in the endowments of the mind, and yet, a ſad reflection! even the beſt minds are blended with ſome degree of depravity; ſo the moſt healthy bodies are frequently afflicted with great infirmities: and theſe being the ſeeds of death, ought to put us in mind of the ſhortneſs of this life, and of the propriety of this expreſſion of *Lucretius*:

Vitaque mancupio nulli datur, omnibus uſu (1);
None have a right to life, all to its uſe.

and likewiſe that there is no abſurdity

(1) *Lib.* iii. *ver.* 984.

ſurdity in this ſaying of *Hippocrates:*

Ὅλος ἄνθρωπος ἐκ γενετῆς νοῦσός ἐστι (1).

The whole man from his birth is a diſeaſe.

(1) *Epiſt. ad Damaget.*

The END.